Commonwealth of Virginia

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

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STATEMENT OF LEGAL AND FACTUAL BASIS

Ashland Specialty Ingredients GP
Hopewell, Virginia
Permit No. PRO50363

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9VAC5 Chapter 80, Ashland Specialty Ingredients GP has applied for a renewal Title V Operating Permit for its Hopewell facility. The Department has reviewed the application and has prepared a draft renewal Title V Operating Permit.

Permit Writer: _____ Date:_____
Cheryl L. Mayo
(804) 712-5312

Air Permit Manager: _____ Date:_____
James E. Kyle, P.E.

Regional Director: _____ Date:_____
James J. Golden

FACILITY INFORMATION

Permittee
Ashland Specialty Ingredients GP
1111 Hercules Rd.
Hopewell, Virginia 23860

Facility
Ashland Hopewell Facility
1111 Hercules Rd.
Hopewell, Virginia 23860

County-Plant Identification Number: 51- 041-006

SOURCE DESCRIPTION

NAICS Code: 325199 – All Other Basic Organic Chemical Manufacturing

Ashland Specialty Ingredients owns and operates a manufacturing facility in Hopewell, Virginia. A variety of cellulose products used in the production of a wide range of consumer products and product packaging are manufactured at this facility.

The facility is a Title V major source of VOC and Hazardous Air Pollutants (primarily methanol) and is located in an attainment area for all pollutants. The facility currently holds several permits, one for each of the process areas at the plant:

Carboxymethyl Cellulose (CMC) – December 18, 2014 Minor New Source Review permit

Hydroxyethyl Cellulose (Natrosol) – April 20, 2020 Minor New Source Review permit

Hydroxypropyl Cellulose (Klucel) – March 20, 2019 Minor New Source Review permit

Ethyl Cellulose (EC) – February 24, 2006 Minor New Source Review permit

Technical Facility (TF) – December 7, 2009 Minor New Source Review permit

While the facility is a PSD-sized source, it has not been subject to PSD permitting due to emissions netting in the CMC, Natrosol, Klucel, and EC process areas.

VOC emissions from the facility (CMC, Natrosol, Klucel, EC, and Technical Facility) are also limited by a RACT agreement, dated July 12, 1996

Equipment at the facility is subject to the following MACT and NSPS standards:

- **Cellulose MACT (40 CFR 63, Subpart UUUU):** The Cellulose MACT (40 CFR 63, Subpart UUUU) was promulgated on 6/10/2002, with a compliance date of 6/13/2005. All four processes at the Hopewell facility (CMC, Natrosol, Klucel and EC) are subject to the MACT. The requirements of Subpart UUUU that are applicable to the facility are addressed in a dedicated section of the permit, except for the operating limitations on the scrubber in each of the four process areas. MACT Subparts F, G, and H are referenced by MACT Subpart UUUU, but these subparts are applicable only through MACT UUUU and therefore are not individually addressed in the permit (with the exception of Condition 94d of the permit, which references a Subpart G citation requiring the permittee to keep records of tank dimensions/capacity for CMC-TNK-408, KL-TNK-307, and EC-TNK-325).

- **RICE MACT (40 CFR 63, Subpart ZZZZ) and NSPS (40 CFR 60, Subpart IIII):** The source has a portable diesel generator for emergency use, rated at 530 hp. It is not subject to NSR permitting because of its size, but does have applicable NSPS requirements that are included in the Title V permit. The emergency generator, with a brake horsepower of more than 500 hp at a major source of HAP is subject only to the initial notification requirement of RICE MACT (40 CFR 63, Subpart ZZZZ). The renewal also includes 5 diesel engines (well pumps) rated at 300 hp that are subject to MACT Subpart ZZZZ.

The current Title V permit was issued on September 28, 2016. The Title V renewal application was received March 23, 2021, and was deemed timely and complete on July 18, 2021. Therefore, the Title V permit application shield is still in place.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was most recently conducted on July 15, 2021. All reports and other data required by permit conditions or regulations, which are submitted to DEQ, have been evaluated for compliance. Based on these compliance evaluations, the facility was issued a Request for Corrective Action (RCA) on July 27, 2021, due to missing visual and differential pressure readings on the CMC Dry Side monthly inspection forms during the period July 2019 to June 2021. The visible inspection/observation and differential pressure readings were not recorded for the #1 and #2 Feed and Product Baghouses in February 2020, and for the #4 Dryer Storage Bin baghouse in April 2020. The facility was marked out of compliance with Conditions 12, 13, and 14 of the September 28, 2016 Title V permit. The facility responded to the request, and an informal resolution was completed on October 18, 2021. The RCA was resolved, and the facility has not been found to be in violation of any state or federal applicable requirements at this time.

CHANGES TO THE PERMIT

Since the renewal Federal Operating Permit was issued on September 28, 2016, the following changes have taken place to the applicable requirements at this facility:

- **Klucel Process Area:** The underlying NSR permit was amended on March 20, 2019 to install a larger distillation feed tank (KL-TNK-309), with a capacity of 27,000 gallons. There was no increase in permitted emissions. Construction has been completed.

- **Natrosol Process Area:** The underlying permit was issued (not amended, since the uncontrolled emissions increase exceeded permitting thresholds) on April 20, 2020 for the replacement of the Natrosol batch dryers with continuous dryers. Additionally, a silica bulk bagging area was added with a new baghouse. Controlled emissions from the new baghouse are limited to 0.4 ton PM/PM-10/PM-2.5 per year. The 66.6 tons/yr VOC emission limit for the Natrosol process remains unchanged. Construction of the project is ongoing. Therefore, the Natrosol batch reactors are still listed in the equipment list, and the initial performance testing and VEE for the silica bulk bagging operation baghouse are included in the Title V permit.

- The MCA Chlorine Unloading Station, which was subject to state only enforceable requirements, has been permanently shut down.

- The facility has installed five new emergency water pumps that are subject to MACT Subpart ZZZZ. Aside from the emergency engine (EG-AEU-001) and emergency water pumps, there is no fuel-burning equipment located at this facility.

EMISSION UNITS

Equipment to be operated consists of:

Fuel Burning Equipment:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
EG-AEU-001	EG-ACD-001	Emergency Diesel Engine-Generator (2016)	350 kW (530 hp)	N/A	N/A	N/A	N/A
WP-EAU-001	WP-ACD-001	Emergency Diesel Water Pump No. 1 (2004)	300 hp	N/A	N/A	N/A	N/A
WP-EAU-002	WP-ACD-002	Emergency Diesel Water Pump No. 2 (2004)	300 hp	N/A	N/A	N/A	N/A
WP-EAU-003	WP-ACD-003	Emergency Diesel Water Pump No. 3 (2004)	300 hp	N/A	N/A	N/A	N/A
WP-EAU-004	WP-ACD-004	Emergency Diesel Water Pump No. 4 (2004)	300 hp	N/A	N/A	N/A	N/A
WP-EAU-005	WP-ACD-005	Emergency Diesel Water Pump No. 15 (2004)	300 hp	N/A	N/A	N/A	N/A

CMC Process Area:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
CM-AEU-001	CM-ACD-001	Primary Cutter #1	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM_{10}	December 18, 2014
CM-AEU-002	CM-ACD-001	Secondary Cutter #1	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM_{10}	December 18, 2014
CM-AEU-003	CM-ACD-001	Primary Cutter #2	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM_{10}	December 18, 2014
CM-AEU-004	CM-ACD-001	Secondary Cutter #2	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM_{10}	December 18, 2014
CM-AEU-005	CM-ACD-001	Primary Cutter #3	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM_{10}	December 18, 2014
CM-AEU-006	CM-ACD-001	Secondary Cutter #3	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM_{10}	December 18, 2014
CM-AEU-007	CM-ACD-001	Primary Cutter #4	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM_{10}	December 18, 2014
CM-AEU-115	CM-ACD-001	Secondary Cutter #4	---	Cellulose Weigh Bin Baghouse	CM-ACD-001	PM/PM_{10}	December 18, 2014
CM-AEU-008	N/A	Vent Intake Filters (4)	---	N/A	N/A	N/A	December 18, 2014
CM-ACD-002	CM-ACD-002	Cellulose Preparation Housekeeping Vacuum System	---	Cellulose Preparation Housekeeping Vacuum Baghouse	CM-ACD-002	PM/PM_{10}	December 18, 2014

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
CM-ACD-003	CM-ACD-003	Cellulose Conveyance System including cyclone and zero point filter	---	Cellulose Conveyance System Zero Point Filter (ZPF)	CM-ACD-003	PM/PM_{10}	December 18, 2014
CM-AEU-009	CM-ACD-009	Cellulose Conveyance System – Surge Bin	---	Cellulose Surge Bin Baghouse	CM-ACD-009	PM/PM_{10}	December 18, 2014
CM-AEU-011	CM-ACD-005; CM-ACD-006	Alkali Cellulose Vessel	7,000 gallons	Alkali Cellulose Scrubber (loading); CMC Building Scrubber (all other periods)	CM-ACD-005; CM-ACD-006	VOC	December 18, 2014
CM-AEU-012	CM-ACD-005; CM-ACD-006	Alkali Cellulose Vessel	7,000 gallons	Alkali Cellulose Scrubber (loading); CMC Building Scrubber (all other periods)	CM-ACD-005; CM-ACD-006	VOC	December 18, 2014
CM-AEU-013	CM-ACD-005; CM-ACD-006	Alkali Cellulose Vessel	7,000 gallons	Alkali Cellulose Scrubber (loading); CMC Building Scrubber (all other periods)	CM-ACD-005; CM-ACD-006	VOC	December 18, 2014
CM-AEU-014	CM-ACD-005; CM-ACD-006	Pre-Mixers (2)	---	Alkali Cellulose Scrubber (loading); CMC Building Scrubber (all other periods)	CM-ACD-005; CM-ACD-006	VOC	December 18, 2014
CM-AEU-015	CM-ACD-006	Caustic/IPA Mix Tank	---	CMC Building Scrubber	CM-ACD-006	VOC	December 18, 2014
CM-AEU-016	CM-ACD-006	Caustic/IPA Mix Tank	---	CMC Building Scrubber	CM-ACD-006	VOC	December 18, 2014
CM-AEU-017	CM-ACD-004; CM-ACD-006	Reactor #1	7,000 gallons	Oxygen Scrubber (viscosity reduction); CMC Building Scrubber (all other periods)	CM-ACD-007; CM-ACD-006	VOC	December 18, 2014
CM-AEU-018	CM-ACD-004; CM-ACD-006	Reactor #2	7,000 gallons	Oxygen Scrubber (viscosity reduction); CMC Building Scrubber (all other periods)	CM-ACD-007; CM-ACD-006	VOC	December 18, 2014
CM-AEU-019	CM-ACD-004; CM-ACD-006	Reactor #3	7,000 gallons	Oxygen Scrubber (viscosity reduction); CMC Building Scrubber (all other periods)	CM-ACD-007; CM-ACD-006	VOC	December 18, 2014
CM-AEU-020	CM-ACD-006	Hold Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-021	CM-ACD-006	Hold Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-022	CM-ACD-006	Reslurry Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-023	CM-ACD-006	Reslurry Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
CM-AEU-024	CM-ACD-006	Reslurry Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-025	CM-ACD-006	Reslurry Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-026	CM-ACD-006	Reslurry Tub	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-027	CM-ACD-006	Centrifuge	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-028	CM-ACD-006	Centrifuge	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-029	CM-ACD-006	Centrifuge	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-030	CM-ACD-006	Centrifuge	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-031	CM-ACD-006	Centrifuge	---	CMC Building Scrubber	CM-ACD-006	VOC/HAP	December 18, 2014
CM-AEU-032	CM-ACD-201	#3 Dryer	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-033	CM-ACD-201	#4 Dryer	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-036	CM-ACD-201	Dryer Centrifuge #5	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-037	CM-ACD-201	Dryer Centrifuge #6	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-038	CM-ACD-201	Blend Tub #5	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-039	CM-ACD-201	Blend Tub #6	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-040	CM-ACD-201	Blend Tub #7	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-041	CM-ACD-201	Blend Tub #8	---	West Dryer Scrubber	CM-ACD-201	VOC/HAP	December 18, 2014
CM-AEU-047	CM-ACD-203	#5 Dryer	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-048	CM-ACD-203	#6 Dryer	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-051	CM-ACD-203	Dryer Centrifuge #7	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-052	CM-ACD-203	Dryer Centrifuge #8	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-053	CM-ACD-203	Blend Tub #9	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-054	CM-ACD-203	Blend Tub #10	---	East Dryer Scrubber	CM-ACD-203	VOC/HAP	December 18, 2014
CM-AEU-060-067	CM-ACD-301	Eight Dryer Storage Bins (#1 – #8)	---	Dryer Storage Bin Vent Filter	CM-ACD-301	PM/PM_{10}	December 18, 2014
CM-AEU-068	CM-ACD-312	#1 Prescreener	---	#1 Mill Product Baghouse	CM-ACD-312	PM/PM_{10}	December 18, 2014
CM-AEU-068	CM-ACD-312	#1 Mill System	---	#1 Mill Product Baghouse	CM-ACD-312	PM/PM_{10}	December 18, 2014
CM-AEU-068	CM-ACD-312	#1 Mill Screener	---	#1 Mill Product Baghouse	CM-ACD-312	PM/PM_{10}	December 18, 2014
CM-AEU-071-076	CM-ACD-319	Six #1 Mill Blend Bins	30,000 lbs each	Aspirator Baghouse	CM-ACD-319	PM/PM_{10}	December 18, 2014
CM-AEU-077	CM-ACD-313	#2 Prescreener	---	#2 Mill Product Baghouse	CM-ACD-313	PM/PM_{10}	December 18, 2014
CM-AEU-078	CM-ACD-313	#2 Mill System	---	#2 Mill Product Baghouse	CM-ACD-313	PM/PM_{10}	December 18, 2014
CM-AEU-079	CM-ACD-313	#2 Mill Screener	---	#2 Mill Product Baghouse	CM-ACD-313	PM/PM_{10}	December 18, 2014
CM-AEU-080-085	CM-ACD-319	Six #2 Mill Blend Bins	30,000 lbs each	Aspirator Baghouse	CM-ACD-319	PM/PM_{10}	December 18, 2014
CM-AEU-089	CM-ACD-314	Regrind Mill System	---	Regrind Mill Product Baghouse	CM-ACD-314	PM/PM_{10}	December 18, 2014

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
CM-AEU-090	CM-ACD-314	Regrind Mill Screener	---	Regrind Mill Product Baghouse	CM-ACD-314	PM/PM_{10}	December 18, 2014
CM-AEU-091	CM-ACD-319	Regrind Mill Blend Bin	30,000 lbs	Aspirator Baghouse	CM-ACD-319	PM/PM_{10}	December 18, 2014
CM-AEU-092	CM-ACD-319	Regrind Mill Blend Bin	30,000 lbs	Aspirator Baghouse	CM-ACD-319	PM/PM_{10}	December 18, 2014
CM-AEU-093	CM-ACD-311	Addback Feed System	---	Regrind Mill Feed Baghouse	CM-ACD-311	PM/PM_{10}	December 18, 2014
CM-AEU-094	CM-ACD-315	#1 Airmix Blender	40,000 lbs/hr	#1 AMB Baghouse	CM-ACD-315	PM/PM_{10}	December 18, 2014
CM-AEU-095	CM-ACD-316	#2 Airmix Blender	40,000 lbs/hr	#2 AMB Baghouse	CM-ACD-316	PM/PM_{10}	December 18, 2014
CM-AEU-096	CM-ACD-317	Custom Blender	10,000 lbs/hr	Custom Blender Baghouse	CM-ACD-317	PM/PM_{10}	December 18, 2014
CM-AEU-097	N/A	Packaging System	15,000 lbs/hr	N/A	N/A	N/A	December 18, 2014
CM-ACD-318	CM-ACD-318	Packaging Housekeeping Vacuum System	---	Packaging Housekeeping Vacuum Baghouse	CM-ACD-318	PM/PM_{10}	December 18, 2014
CM-AEU-098	CM-ACD-406	C-1 (A635) Distillation System (includes column C-3)	117,000 lbs/hr mixed solvent-water feed	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-AEU-109	CM-ACD-406	D-1 (A640) Distillation System	117,000 lbs/hr mixed solvent-water feed	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-AEU-110	CM-ACD-406	D-2 (A641) Distillation System	117,000 lbs/hr mixed solvent-water feed	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-AEU-111	CM-ACD-008	MCA Dissolution Mix Tank	3000 gallons	MCA Sewer Scrubber	CM-ACD-008	VOC/HAP	December 18, 2014
CM-AEU-112	CM-ACD-008	MCA Dissolution Mix Tank	3000 gallons	MCA Sewer Scrubber	CM-ACD-008	VOC/HAP	December 18, 2014
CM-TNK-401	CM-ACD-400	MCA Storage Tank	7500 gallons	MCA Tank Scrubber	CM-ACD-400	VOC/HAP	December 18, 2014
CM-TNK-402	CM-ACD-400	MCA Storage Tank	10,000 gallons	MCA Tank Scrubber	CM-ACD-400	VOC/HAP	December 18, 2014
CM-TNK-403	CM-ACD-400	MCA Storage Tank	7500 gallons	MCA Tank Scrubber	CM-ACD-400	VOC/HAP	December 18, 2014
CM-TNK-405a	N/A	Acetic Acid Storage Tank	---	N/A	N/A	VOC	September 24, 2010
CM-TNK-407	CM-ACD-406	Spent Methanol Tank	106,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-408	CM-ACD-406	Swing Tank	---	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-409	CM-ACD-406	Spent Methanol Tank	200,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
CM-TNK-410	CM-ACD-406	Spent Methanol Tank	18,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-411	CM-ACD-406	Spent Methanol Tank	18,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-412	CM-ACD-406	Spent Methanol Tank	12,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-413	CM-ACD-406	Reuse Methanol Tank	40,400 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-414	CM-ACD-406	Reuse Methanol Tank	40,400 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-415	CM-ACD-406	Reuse Methanol Tank	18,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-416	CM-ACD-406	Spent IPA Tank	150,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-417	CM-ACD-406	Reuse IPA Tank	18,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-418	CM-ACD-406	Reuse IPA Tank	21,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-419	CM-ACD-406	Reuse IPA Tank	18,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-420	CM-ACD-406	Fresh Methanol Tank	150,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-421	CM-ACD-406	Brine Tank	---	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-422	CM-ACD-406	Fresh IPA Tank	49,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
CM-TNK-423	CM-ACD-406	Fresh IPA Tank	49,000 gallons	Field Tank Scrubber	CM-ACD-406	VOC/HAP	December 18, 2014
MC-TNK-294	N/A	Acetic Acid Storage Tank (T-94)	---	N/A	N/A	N/A	N/A
MC-TNK-295	N/A	Acetic Acid Storage Tank (T-95)	---	N/A	N/A	N/A	N/A

Hydroxyethyl Cellulose (Natrosol) Process Area:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-AEU-001	NA-ACD-001	#1 Primary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM_{10}	April 20, 2020
NA-AEU-002	NA-ACD-001	#1 Secondary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM_{10}	April 20, 2020
NA-AEU-003	NA-ACD-001	#2 Primary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM_{10}	April 20, 2020
NA-AEU-004	NA-ACD-001	#2 Secondary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM_{10}	April 20, 2020
NA-AEU-005	NA-ACD-001	#3 Primary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM_{10}	April 20, 2020
NA-AEU-006	NA-ACD-001	#3 Secondary Cutter	3,400 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM_{10}	April 20, 2020
NA-AEU-007	NA-ACD-001	Herbold (or equivalent) Cutter	1,200 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM_{10}	April 20, 2020
NA-AEU-008	NA-ACD-001	Herbold (or equivalent) Cutter	1,200 lbs/hr	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM_{10}	April 20, 2020
NA-AEU-011	NA-ACD-001	Cellulose Weigh Bin	830 ft^3	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM_{10}	April 20, 2020
NA-AEU-012	NA-ACD-001	Cellulose Weigh Bin	830 ft^3	Cellulose Weigh Bin Dust Collector (baghouse)	NA-ACD-001	PM/PM_{10}	April 20, 2020
NA-AEU-013	NA-ACD-004	Intermediate Cellulose receiver	850 ft^3	Intermediate Receiver Dust Collector (baghouse)	NA-ACD-004	PM/PM_{10}	April 20, 2020
NA-ACD-002	NA-ACD-002	Cellulose Preparation Housekeeping Vacuum System	---	Cellulose Preparation Housekeeping Vacuum Dust Collector (baghouse)	NA-ACD-002	PM/PM_{10}	April 20, 2020
NA-ACD-003	NA-ACD-003	Cellulose Reactor Conveyance System including two cyclones	---	Cellulose Reactor Conveyance System ZPF (baghouse)	NA-ACD-003	PM/PM_{10}	April 20, 2020
NA-AEU-014	NA-ACD-101	Pre-Mixer #1	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-015	NA-ACD-101	Pre-Mixer #2	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-016	NA-ACD-101	#1 Reactor	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-AEU-017	NA-ACD-101	#2 Reactor	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-018	NA-ACD-101	#3 Reactor	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-019	NA-ACD-101	#4 Reactor	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-020	NA-ACD-101	#1 Hold Tub	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-021	NA-ACD-101	#2 Hold Tub	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-022	NA-ACD-101	#1 Caustic/TBA Mix Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-023	NA-ACD-101	#2 Caustic/TBA Mix Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-TNK-370	NA-AEE-027	Emergency Blow Tank	---	N/A	N/A	N/A	April 20, 2020
NA-AEU-024	NA-ACD-101	#1 TBA Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-025	NA-ACD-101	#2 TBA Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-026	NA-ACD-101	#1 Reslurry Tank	2,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-027	NA-ACD-101	#2 Reslurry Tank	2,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-028	NA-ACD-101	#3 Reslurry Tank	2,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-029	NA-ACD-101	#4 Reslurry Tank	3,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-031	NA-ACD-101	#5 Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-033	NA-ACD-101	Turbilizer	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-034	NA-ACD-101	Allis-Chalmers Washer and Crusher/Drag Chain System	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-035	NA-ACD-101	#1 Dump Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-036	NA-ACD-101	#2 Dump Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-037	NA-ACD-101	#6 Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-038	NA-ACD-101	#7 Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-040	NA-ACD-101	#2 Viscosity Reduction Vessel	3,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-041	NA-ACD-101	#3 Viscosity Reduction Vessel	3,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-042	NA-ACD-101	#4 Viscosity Reduction Vessel	3,800 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-045	NA-ACD-101	#3 Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-046	NA-ACD-101	#4 Centrifuge	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-047	NA-ACD-101	#1 Blend Tub	11,400 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-048	NA-ACD-101	#2 Blend Tub	11,400 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-AEU-049	NA-ACD-101	#3 Blend Tub	11,400 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-050	NA-ACD-101	#4 Blend Tub	11,400 gallons	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-051	NA-ACD-101	#1 Dryer	100,000 lbs/day	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-052	NA-ACD-101	#2 Dryer	(combined for #1 and #2 Dryers)	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-055	NA-ACD-101	#1 Condensate Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-AEU-060	NA-ACD-101	#2 Condensate Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC/HAP	April 20, 2020
NA-ACD-103	NA-ACD-103	Dryer Unloading Conveyance System including cyclone	---	Dryer Unloading Conveyance System ZPF (baghouse)	NA-ACD-103	PM/PM_{10}	April 20, 2020
NA-AEU-066	NA-ACD-201c	Screener #1 – South Mill System	7,000 lbs/hr	Netzch-Condux Grinding Mill (North) Dust Collector (baghouse)	NA-ACD-201c	PM/PM_{10}	April 20, 2020
NA-AEU-067	NA-ACD-201b	Screener #2 – South Mill System	7,000 lbs/hr	Netzch-Condux Grinding Mill (South) Dust Collector (baghouse)	NA-ACD-201b	PM/PM_{10}	April 20, 2020
NA-AEU-068	NA-ACD-201c	#1 Mill – South Mill System	7,000 lbs/hr	Netzch-Condux Grinding Mill (North) Dust Collector (baghouse)	NA-ACD-201c	PM/PM_{10}	April 20, 2020
NA-AEU-069	NA-ACD-201b	#2 Mill – South Mill System	7,000 lbs/hr	Netzch-Condux Grinding Mill (South) Dust Collector (baghouse)	NA-ACD-201b	PM/PM_{10}	April 20, 2020
NA-AEU-070	NA-ACD-202b	Screener #1 – East Mill System	7,000 lbs/hr	Bauermeister Grinding Mill Dust Collector (baghouse)	NA-ACD-202b	PM/PM_{10}	April 20, 2020
NA-AEU-071	NA-ACD-202b	Screener #2 – East Mill System	7,000 lbs/hr	Bauermeister Grinding Mill Dust Collector (baghouse)	NA-ACD-202b	PM/PM_{10}	April 20, 2020
NA-AEU-072	NA-ACD-202b	#1 Mill – East Mill System	7,000 lbs/hr	Bauermeister Grinding Mill Dust Collector (baghouse)	NA-ACD-202b	PM/PM_{10}	April 20, 2020
NA-AEU-073	NA-ACD-202b	#2 Mill – East Mill System	7,000 lbs/hr	Bauermeister Grinding Mill Dust Collector (baghouse)	NA-ACD-202b	PM/PM_{10}	April 20, 2020

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-AEU-080	NA-ACD-203; or NA-ACD-204	Six Blend Storage Bins (#1 - #6)	---	Blend Storage Bins Bottom Turnhead ZPF; Blend Storage Bins Top Turnhead ZPF (baghouses)	NA-ACD-203; or NA-ACD-204	PM/PM_{10}	April 20, 2020
NA-ACD-205	NA-ACD-205	North (#1) Air Mix Blender Loading Cyclone	---	North (#1) Air Mix Blender Loading ZPF (baghouse)	NA-ACD-205	PM/PM_{10}	April 20, 2020
NA-ACD-206	NA-ACD-206	South (#2) Air Mix Blender Loading Cyclone	---	South (#2) Air Mix Blender Loading ZPF (baghouse)	NA-ACD-206	PM/PM_{10}	April 20, 2020
NA-AEU-081	NA-ACD-210	#1 Air Mix Blender (AMB)	---	#1 Air Mix Blender Dust Collector	NA-ACD-210	PM/PM_{10}	April 20, 2020
NA-AEU-082	NA-ACD-211	#2 Air Mix Blender	---	#2 Air Mix Blender Dust Collector	NA-ACD-211	PM/PM_{10}	April 20, 2020
NA-AEU-083	NA-ACD-213	AMB Weigh Bin #1	---	AMB Weigh Bin #1 (North) Bag Filter Breather (baghouse)	NA-ACD-213	PM/PM_{10}	April 20, 2020
NA-AEU-084	NA-ACD-214	AMB Weigh Bin #2	---	AMB Weigh Bin #2 (South) Bag Filter Breather (baghouse)	NA-ACD-214	PM/PM_{10}	April 20, 2020
NA-AEU-085	NA-ACD-215	AMB Weigh Bin #3	---	AMB Weigh Bin #3 (Southeast) Bag Filter Breather (baghouse)	NA-ACD-215	PM/PM_{10}	April 20, 2020
NA-ACD-209	NA-ACD-209	Addback Hopper	---	Addback Hopper Dust Collector (baghouse)	NA-ACD-209	PM/PM_{10}	April 20, 2020
NA-ACD-212	NA-ACD-212	Packaging Housekeeping Vacuum System	---	N/A	NA-ACD-212	PM/PM_{10}	April 20, 2020
NA-AEU-100	NA-ACD-208	Packaging System	200,000 lbs/day	Air Mix Blender Unload to Packout ZPF (baghouse)	NA-ACD-208	PM/PM_{10}	April 20, 2020
NA-AEU-086	NA-ACD-101	Distillation Column System A-670	21,000 gallons/hr solvent feed combined three columns	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-AEU-087	NA-ACD-101	Distillation Column System A-672	21,000 gallons/hr solvent feed combined three columns	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
NA-AEU-088	NA-ACD-101	Distillation Column System A-673	21,000 gallons/hr solvent feed combined three columns	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-AEU-095	NA-ACD-301	Three Ethylene Oxide Scale Tanks	---	EO/PO Emergency Scrubber	NA-ACD-301	VOC/HAP	April 20, 2020
NA-TNK-330	NA-ACD-301	Ethylene Oxide Storage/Transfer/ Inerting System	---	EO/PO Emergency Scrubber	NA-ACD-301	VOC/HAP	April 20, 2020
NA-TNK-341	NA-ACD-101	Spent TBA Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-TNK-342	NA-ACD-101	Fresh TBA Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-TNK-343	NA-ACD-101	Fresh TBA Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-TNK-347	NA-ACD-101	Reuse TBA Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-TNK-344	NA-ACD-101	Spent Acetone Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-TNK-348	NA-ACD-101	Reuse Acetone Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-TNK-349	NA-ACD-101	Reuse Acetone Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-TNK-345	NA-ACD-101	Weak Acetone Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-AEU-097	NA-AEU-097	Glyoxal Storage Tank	---	N/A	N/A	N/A	April 20, 2020
NA-AEU-101	NA-ACD-101	Centrifuge #8	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-AEU-102	NA-ACD-101	#2A Dump Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-AEU-103	NA-ACD-101	#3 Dump Tank	---	Natrosol Solvent Vent Scrubber	NA-ACD-101	VOC	April 20, 2020
NA-AEU-104	NA-ACD-102	Continuous Dryer	---	Natrosol Scrubber	NA-ACD-102	VOC	April 20, 2020
NA-AEU-105	NA-ACD-102	Continuous Dryer Centrifuge #1	---	Natrosol Scrubber	NA-ACD-102	VOC	April 20, 2020
NA-AEU-62- through 65	NA-ACD-62a through 65a	Dryer Storage Bins (4)	---	Dryer Storage Bin Vents	NA-ACD-62a through 65a	$PM/PM_{10}/PM_{2.5}$	April 20, 2020
NA-AEU-110	NA-ACD-216	Silicon Bulk Bag System	---	Silicon Bulk Bag System Baghouse	NA-ACD-216	PM/PM_{10} $PM_{2.5}$	April 20, 2020
NA-AEU-111	NA-ACD-103a	Conveyance System including cyclone	---	Conveyance System Baghouse	NA-ACD-103a	PM/PM_{10} $PM_{2.5}$	April 20, 2020

Hydroxypropyl Cellulose (Klucel) Process Area:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
KL-AEU-001	KL-ACD-001	Cellulose Shredder #1 – primary and secondary	---	Klucel Cellulose Bin Fabric Filter	KL-ACD-001	PM/PM_{10}	March 20, 2019
KL-AEU-002	KL-ACD-001	Cellulose Shredder #2 – primary and secondary	---	Klucel Cellulose Bin Fabric Filter	KL-ACD-001	PM/PM_{10}	March 20, 2019
KL-ACD-002	KL-ACD-002	Process Conveyance System including cyclone	---	Process Conveyance System ZPF (fabric filter)	KL-ACD-002	PM/PM_{10}	March 20, 2019
KL-AEU-003	KL-ACD-001	Condux Cutter	---	Klucel Cellulose Bin Fabric Filter	KL-ACD-001	PM/PM_{10}	March 20, 2019
KL-AEU-004	KL-ACD-001	Cellulose Weigh Bin	---	Klucel Cellulose Bin Fabric Filter	KL-ACD-001	PM/PM_{10}	March 20, 2019
KL-AEU-037	KL-ACD-001	Cellulose Shredder #3 – primary and secondary	---	Klucel Cellulose Bin Fabric Filter	KL-ACD-001	PM/PM_{10}	March 20, 2019
KL-AEU-005	KL-ACD-101	#2 Reactor and associated feed and discharge systems	6,600 gallons	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-038	KL-ACD-101	#3 Reactor	6,600 gallons	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-006	KL-ACD-102	Ambergum Mix Tank with associated vacuum pump	4,000 gallons	Venturi Scrubber	KL-ACD-102	VOC/HAP	March 20, 2019
KL-AEU-007	KL-ACD-101	Purification Centrifuge #1	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-008	KL-ACD-101	Purification Centrifuge #2	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-009	KL-ACD-101	Purification Centrifuge #3	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-010	KL-ACD-101	Purification Wash Tub #1	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-011	KL-ACD-101	Purification Wash Tub #2	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-012	KL-ACD-101	Purification Wash Tub #3	5,300 gallons	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-014	KL-ACD-103	Acetic Acid Head Tank and Transfer System	---	Acetic Acid Scrubber	KL-ACD-103	VOC	March 20, 2019
KL-AEU-015	N/A	Dryer #1	42” x 60”	N/A	N/A	N/A	March 20, 2019
KL-AEU-016	N/A	Dryer #2	42” x 60”	N/A	N/A	N/A	March 20, 2019
KL-AEU-017	N/A	Dryer Feed Tub	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-018	N/A	Dryer Centrifuge #1	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-019	N/A	Dryer Centrifuge #2	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-044	KL-ACD-101	Dryer Centrifuge #3	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-020	N/A	Shredder #1	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-021	N/A	Shredder #2	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-022	N/A	Shredder #3	---	N/A	N/A	N/A	March 20, 2019

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
KL-AEU-023	N/A	Shredder #4	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-040	N/A	Dryer/Shredder Unit #5	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-024	N/A	Mill #1	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-025	N/A	Mill #2	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-026	N/A	Mill #3	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-027	N/A	Mill #4	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-041	N/A	Mill #5	---	N/A	N/A	N/A	March 20, 2019
KL-AEU-028	KL-ACD-201A	Air Mix Blender #1	---	Blender Fabric Filter #1	KL-ACD-201A	PM/PM_{10}	March 20, 2019
KL-AEU-029	KL-ACD-201B	Air Mix Blender #2	---	Blender Fabric Filter #2	KL-ACD-201B	PM/PM_{10}	March 20, 2019
KL-AEU-030	KL-ACD-201C	Air Mix Blender #3	---	Blender Fabric Filter #3	KL-ACD-201C	PM/PM_{10}	March 20, 2019
KL-AEU-042	KL-ACD-201	Air Mix Blender #4	---	Blender Fabric Filter #4	KL-ACD-201D	PM/PM_{10}	March 20, 2019
KL-AEU-204)	KL-ACD-201E	Fluidized mill grinder and product handling	---	Blender Fabric Filter #5	KL-ACD-201E	PM/PM_{10}	March 20, 2019
KL-AEU-031	KL-ACD-202	Automated Packaging System including one 50 cu. ft. fill hopper and associated conveyor	6,000 lbs/hr	Packaging/Addback Fabric Filter	KL-ACD-202	PM/PM_{10}	March 20, 2019
KL-AEU-032	KL-ACD-202	Addback Hopper	---	Packaging/Addback Fabric Filter	KL-ACD-202	PM/PM_{10}	March 20, 2019
KL-ACD-202	KL-ACD-202	KPR Process Vacuum System	---	Housekeeping Vacuum Fabric Filter	KL-ACD-202	PM/PM_{10}	March 20, 2019
KL-ACD-203	KL-ACD-203	Housekeeping Vacuum System	---	Housekeeping Vacuum Fabric Filter	KL-ACD-203	PM/PM_{10}	March 20, 2019
KL-AEU-033	KL-ACD-101	Separator	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-034	KL-ACD-101	Extraction Column and Feed Tank	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-035	KL-ACD-101	Distillation Column (A-671)	27 gallons/min	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-AEU-036	KL-ACD-101	Product Cooler	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-TNK-306	KL-ACD-101	Extraction Feed Tank	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-TNK-307	KL-ACD-101	Fresh Heptane Tank (T-7)	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
KL-TNK-337	KL-ACD-101	Fresh Heptane Tank (T-37)	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-TNK-308	KL-ACD-101	Fresh TBA Tank (T-8)	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-TNK-322	KL-ACD-101	Spent Solvent Tank (T-22)	---	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-TNK-309	KL-ACD-101	Distillation Feed Tank (T-9)	27,000 gallons	Klucel Process Scrubber	KL-ACD-101	VOC/HAP	March 20, 2019
KL-TNK-303	KL-TNK-303	Emergency Blow Tank	---	N/A	N/A	N/A	March 20, 2019
KL-TNK-363	KL-ACD-302	Propylene Oxide Storage Tank	---	EO/PO Emergency Scrubber	KL-ACD-302	VOC/HAP	March 20, 2019
KL-TNK-364	KL-ACD-302	Propylene Oxide Scale Tank	---	EO/PO Emergency Scrubber	KL-ACD-302	VOC/HAP	March 20, 2019
KL-AEU-039	KL-ACD-302	Pressure Bleed for PO Unloading / Storage / Transfer	---	EO/PO Emergency Scrubber	KL-ACD-302	VOC/HAP	March 20, 2019

Ethyl Cellulose (EC) Process Area:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
EC-AEU-001	EC-ACD-001	Cellulose Shredder #1	---	Cellulose Conveyance Cyclone	EC-ACD-001	PM/PM_{10}	February 24, 2006
EC-AEU-003	EC-ACD-001	#11 Autoclave	4,700 gallons	Vent Scrubber System	EC-ACD-101	PM/PM_{10}	February 24, 2006
EC-AEU-004	EC-ACD-001	#12 Autoclave	4,700 gallons	Vent Scrubber System	EC-ACD-101	PM/PM_{10}	February 24, 2006
EC-AEU-005	EC-ACD-001	#13 Autoclave	4,700 gallons	Vent Scrubber System	EC-ACD-101	PM/PM_{10}	February 24, 2006
EC-AEU-006	N/A	Wetting Screw	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-007	N/A	Loading Screw	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-008	N/A	Leach Tub	3,000 gallons	N/A	N/A	N/A	February 24, 2006
EC-AEU-009	N/A	Leach Tub	3,000 gallons	N/A	N/A	N/A	February 24, 2006
EC-AEU-011	N/A	Wet Grinding Mill #2	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-012	N/A	Wash Tub	3,000 gallons	N/A	N/A	N/A	February 24, 2006
EC-AEU-013	N/A	Wash Tub	3,000 gallons	N/A	N/A	N/A	February 24, 2006
EC-AEU-014	N/A	Wash Tub	3,000 gallons	N/A	N/A	N/A	February 24, 2006
EC-AEU-015	N/A	Centrifuge Feed Tubs	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-016	N/A	Centrifuge #2	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-017	N/A	Centrifuge #3	---	N/A	N/A	N/A	February 24, 2006
EC-AEU-018	EC-ACD-201	Vacuum Dryer #1	---	Wet Scrubber Vacuum Vent #1	EC-ACD-201	PM/PM_{10}	February 24, 2006
EC-AEU-019	EC-ACD-206	Vacuum Dryer #2	---	Wet Scrubber Vacuum Vent #2	EC-ACD-206	PM/PM_{10}	February 24, 2006

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
EC-AEU-020	EC-ACD-202	Screener System	---	Dryer Unloading ZPF (baghouse)	EC-ACD-202	PM/PM_{10}	February 24, 2006
EC-AEU-021	EC-ACD-202	Milling System	---	Dryer Unloading ZPF (baghouse)	EC-ACD-202	PM/PM_{10}	February 24, 2006
EC-AEU-022	EC-ACD-205	Air Mix Blender	---	Air Mix Blender ZPF (baghouse)	EC-ACD-205	PM/PM_{10}	February 24, 2006
EC-AEU-023	EC-ACD-204	Packaging System	---	Packroom Vacuum Dust Collector (baghouse)	EC-ACD-204	PM/PM_{10}	February 24, 2006
EC-AEU-024	EC-ACD-202	Tote Bin Unloading System	---	Dryer Unloading ZPF (baghouse)	EC-ACD-202	PM/PM_{10}	February 24, 2006
EU-AEU-029	EC-ACD-101	Stripper Column	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EU-AEU-029	EC-ACD-101	Still Preheater	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EU-AEU-029	EC-ACD-101	Distillation Column	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EU-AEU-029	EC-ACD-101	Scrubber Feed Cooler #A	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-294	EC-TNK-294	Acetic Acid Storage Tank	---	N/A	N/A	N/A	February 24, 2006
EC-TNK-310	EC-ACD-101	Low Wine Feed Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-315	EC-ACD-101	Low Wine Feed Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-301	EC-ACD-101	Low Pressure Residue Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-322	EC-ACD-101	Low Wine Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-325	EC-ACD-101	Low Wine Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-327	EC-ACD-101	Low Wine Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-345	EC-ACD-101	Low Wine High-Pressure Tank #1	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-346	EC-ACD-101	Low Wine High-Pressure Tank #2	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-326	EC-ACD-101	Ethyl Chloride Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-328	EC-ACD-101	Ethyl Chloride Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006
EC-TNK-348	EC-ACD-101	Ethyl Chloride Storage Tank	---	Vent Scrubber System	EC-ACD-101	VOC/HAP	February 24, 2006

Technical Facility:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
TF-AEU-001-004	TF-ACD-001	Pilot-Scale 10-gal Reactor Line	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-007	TF-ACD-001	Hold Tub	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-008	TF-ACD-001	Effluent Tub	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-009	TF-ACD-001	Purification Tub	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-010	TF-ACD-001	Mill	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-015-017	TF-ACD-001	Three Pulverizers	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-023-024	TF-ACD-001	Two Screeners	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-006	TF-ACD-001	250-gal Reactor	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-011-012	TF-ACD-001	Two Dryers	---	Process Scrubber	TF-ACD-001	VOC/HAP	December 7, 2009
TF-AEU-013		Bepex Dryer	---				N/A
TF-AEU-014		Littleford Mixer	---				N/A
TF-TNK-510	TF-ACD-001	Acetone/Methanol Tank #1	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-520	TF-ACD-001	Acetone/Methanol Tank #2	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-530	TF-ACD-001	Isopropyl Alcohol Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-540	TF-ACD-001	Methanol Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-550	TF-ACD-001	Acetone Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-560	TF-ACD-001	Distilled Solvent Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-TNK-570	TF-ACD-001	Spent Solvent Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-050	TF-ACD-001	West Dust Knockdown Pot	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-013-016	TF-ACD-001	Four Mix Tanks	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-056	TF-ACD-001	Autoclave	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-005	TF-ACD-001	Blow Tank	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-053-055	TF-ACD-001	Three Purification Vessels	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-020-022	TF-ACD-001	Three Wash Tubs	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A
TF-AEU-043-044	TF-ACD-001	Two EO/PO Storage Tanks	---	Process Scrubber	TF-ACD-001	VOC/HAP	N/A

Waste Water Operations:**

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description*	PCD ID	Pollutant Controlled	Applicable Permit Date
WT-AEU-001	Fugitive	Neutralization/Containment Basin (CDLNS)	---	N/A	N/A	N/A	N/A
WT-AEU-002	Fugitive	HEC/HPC Wet Well	---	N/A	N/A	N/A	N/A
WT-AEU-003	Fugitive	Main Lift Station	---	N/A	N/A	N/A	N/A
WT-AEU-004	Fugitive	Retention Basin	---	N/A	N/A	N/A	N/A
WT-AEU-005	Fugitive	Equalization Basin	---	N/A	N/A	N/A	N/A
WT-AEU-006	Fugitive	Purging Station to Hopewell Water Renewal	---	N/A	N/A	N/A	N/A

*The Size/Rated capacity and PCD efficiency is provided for informational purposes only, and is not an applicable requirement.
**Wastewater operations are subject to recordkeeping requirements of 40 CFR 63, Subpart UUUU only.

EMISSIONS INVENTORY

Emissions from the facility in 2020 are summarized in the following tables.

2020 Criteria Pollutant and Greenhouse Gas Emissions in Tons/Year

Emissions	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	NO_X	CO_2e
Total	475.30	0.03	--	10.46	10.46	0.13	NR

2020 Facility Hazardous Air Pollutant (HAP) Emissions

Pollutant	2020 Hazardous Air Pollutant Emission in Tons/Yr
Ethylene Oxide	0.50
Glycol Ethers	0.10
Methanol	167.62
Propylene Oxide	1.20

EMISSION UNIT APPLICABLE REQUIREMENTS

The source has emission unit specific applicable requirements for six main production areas: the CMC (carboxymethyl cellulose) process area, the Natrosol (hydroxyethyl cellulose) process area, the Klucel (hydroxypropyl cellulose) process area, the EC (ethyl cellulose) process area and the Technical Facility (small scale Research & Development Operations). In addition, the storage tanks from the entire facility that have applicable requirements have been grouped together in the Title V permit as a storage tank category (Section VII). The sources of applicable requirements for the various areas are as follows:

CMC – December 18, 2014 minor New Source Review permit; July 12, 1996 VOC RACT Agreement; and 40 CFR 63 Subparts A and UUUU (MACT standard for cellulose product manufacturing)

Natrosol – April 20, 2020 minor New Source Review permit; July 12, 1996 VOC RACT Agreement; and 40 CFR 63 Subparts A and UUUU (MACT standard for cellulose product manufacturing)

Klucel – March 20, 2019 minor New Source Review permit; July 12, 1996 VOC RACT Agreement; and 40 CFR 63 Subparts A and UUUU (MACT standard for cellulose product manufacturing)

EC – February 24, 2006 minor New Source Review permit; July 12, 1996 VOC RACT Agreement; and 40 CFR 63 Subparts A and UUUU (MACT standard for cellulose product manufacturing)

Technical Facility – December 7, 2009 minor New Source Review permit; July 12, 1996 VOC RACT Agreement

Storage Tank Group – Chapter 40 Existing Source Standard for Storage Tanks from Virginia's regulations 9 VAC 5-40-3430; and 40 CFR 63 Subpart G (Storage tanks requirements from HON MACT 40 CFR 63.123(a)—records of tank dimensions only).

Emergency Generator and Water Pumps – 40 CFR 60, Subpart IIII (New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines) to the Emergency Generator only, and 40 CFR 63, Subpart ZZZZ (RICE MACT) applies to both the Emergency Generator and the Water Pumps. Note that MACT ZZZZ requires that engines subject to NSPS Subpart IIII shall demonstrate compliance with the MACT by complying with the NSPS standards.

EMISSION UNIT APPLICABLE REQUIREMENTS – CMC PROCESS AREA

The basis for the limitations on the CMC process are the operational restrictions listed in the current minor NSR permit dated December 18, 2014 which are based on state BACT requirements. ***Title V Permit Conditions 5 and 11*** *also reference the July 12, 1996 VOC RACT agreement. Pollutants limited by the current CMC permit are PM, PM-10 and VOC. State Only Enforceable requirements are listed in the underlying permit for the control of toxic pollutants chloroacetic acid and methanol but have not been included in the Title V Permit since the facility did not request the inclusion of State Only Enforceable requirements (9VAC5-80-300).*

Limitations

- Condition 2 of the 12/18/2014 NSR permit **(Title V Permit Condition 1)** requires that particulate matter and PM_{10} emissions from the CMC process be controlled by fabric filter. *This is a BACT requirement.*

- Condition 3 of the 12/18/2014 NSR permit **(Title V Permit Condition 2)** requires that VOC emissions from the CMC process solvent recovery stream and subsequent wastewater streams shall be controlled by the use of a spiral heat exchanger on the bottom stream of distillation column C-3 and by the use of automatic valves on the vent streams from the CMC distillation columns (C-1, D-1, and D-2). *This is a BACT requirement.*

- Condition 4 of the 12/18/2014 NSR permit **(Title V Permit Condition 3)** requires that VOC from point sources in the CMC process area be controlled by scrubbers. Scrubber liquid flow meters are required for each scrubber except the Acetic Acid scrubber and the MCA sewer scrubber. *This is a BACT requirement.*

- Condition 6 of the 12/18/2014 NSR permit **(Title V Permit Condition 4)** specifies VOC work practice standards. *This requirement is based on 9 VAC 5-50-20 F, compliance with provisions of 9 VAC 5 Chapter 50 (New and Modified Stationary Sources)*

- Condition 7 of the 12/18/2014 NSR permit **(Title V Permit Condition 6)** limits CMC production to 53,000,000 lb/yr. *This limitation helps to ensure that the emission limits in Title V Conditions 9 and 10 are met.*

- Condition 8 of the 12/18/2014 NSR permit **(Title V Permit Condition 5)** sets an emission standard of 99% VOC control efficiency on a mass basis, calculated monthly as a six-month rolling average. *The 1996 RACT agreement requires 98% VOC control efficiency on a mass basis, calculated monthly as a 6-month rolling average, but the 99% control efficiency is BACT, and the previous 98% standard has been streamlined from the Title V permit. Compliance with the standard is verified by the material balance defined in the condition.*

- Condition 9 of the 12/18/2014 NSR permit **(Title V Permit Condition 7)** limits VOC emissions from the operation of the CMC process to 422 tons/yr. *This is a BACT requirement.*

- Condition 10 of the 12/18/2014 NSR permit **(Title V Permit Condition 8)** limits particulate matter and PM_{10} emissions from each baghouse. The sum of the emissions total 6.0 lb/hr and 18.4 tons/yr. *This is a BACT requirement.*

- Condition 11 of the 12/18/2014 NSR Permit **(Title V Permit Condition 9)** sets a visible emission limit of 5% for the baghouses. *This is a BACT requirement.*

- **Title V Permit Condition 10** establishes scrubber operating parameters to demonstrate continuing compliance with the 99% overall VOC control efficiency required by 40 CFR 63, Subpart UUUU. *This is a requirement based on testing for scrubber parameters (scrubber liquid flow rate and differential pressure) used to demonstrate compliance with MACT Subpart UUUU. As of December 29, 2020, there is no exception for SSM. Updated language has been added to this condition to require the permittee to maintain documentation for periods of startup and shutdown to confirm that the scrubber is operating properly prior to emission unit startup and continues to operate properly until emission unit shutdown is complete.*

Monitoring

Since the CMC Area has uncontrolled VOC/HAP emissions that are above major source threshold levels, are subject to specific emission standards, and need control equipment to meet these emissions standards, the CMC emission units are potentially subject to CAM. However, 40 CFR 64.2(b)(1)(i) states that MACT (40 CFR 63) standards promulgated after November 15, 1990 by default can be considered to include monitoring, recordkeeping, and reporting provisions sufficient to qualify as periodic monitoring without additional requirements. Thus, no additional periodic monitoring discussion is included for 40 CFR 63 Subparts A and UUUU (CMC, Natrosol, Klucel, EC) and 40 CFR Subparts G and H (Storage Tanks and LDAR). No CAM evaluation for particulate matter is required since the control equipment (fabric filters) are considered to be inherent to the process in this area.

For all actual monitoring (i.e., opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to DEQ reports of any opacity observations which reveal visible emissions in excess of the applicable standard.

- **Title V Permit Condition 11:** The CMC Process Area VOC still output shall be continuously measured and totalized once per shift. *This requirement is taken from Condition E.10 of the 7/12/96 RACT Agreement. In general, the RACT Agreement specifies the procedures (monitoring and recordkeeping) required for Ashland to demonstrate compliance with the RACT emission standards for each process area. For the CMC process area, these consist of **Title V Permit Conditions 5 and 11**. Taken together, these two monitoring requirements provide a reasonable assurance of compliance with the streamlined BACT/RACT standard cited in **Title V Permit Condition 5**. In the following sections for the other areas of the Ashland Hopewell Facility, the monitoring specified by the RACT agreement for the RACT emission standards will be listed and, using the rationale stated above, determined to be sufficient to constitute periodic monitoring without further discussion.*

- **Title V Permit Condition 12**: A monthly inspection shall be conducted on each fabric filter (including any differential pressure gauges) listed in **Title V Permit Condition 8** to ensure the proper operation of each control system. *The requirements contained in Condition 8 had no specific monitoring requirements in the NSR permit itself. Thus, this monitoring requirement was developed under the authority of 9 VAC 5-80-110 E to provide a reasonable assurance of compliance. Monthly inspections (and records of these inspections required by **Title V Permit Condition 14e)** of the baghouses should be sufficient for this purpose. In the following sections for the other areas of the facility, monthly inspections with recordkeeping is determined to be sufficient periodic monitoring for NSR permit conditions with no other monitoring of this nature without further discussion.*

- **Title V Permit Condition 13:** Each baghouse subject to **Title V Permit Condition 9** (opacity limit) shall be observed at least once each operating month for at least a brief time period to determine which emission units have any visible emissions. *Under normal operating conditions, there should be no visible emissions from any of the control devices subject to **Title V Permit Condition 9**, so any of these control devices operating in a malfunctioning or poorly maintained state should be readily identifiable by the presence of visible emissions. As long as there are no visible emissions from any of these units, it can be concluded that they are meeting the opacity limit and should be operating properly. Periodic monitoring for the opacity standard in **Title V Permit Condition 9** is therefore determined to be monthly visible emission observations of each emission point (with recordkeeping required by **Title V Permit Condition 14g**) and deviation reporting (**Title V Permit Condition 15**) followed by corrective action to any unit where visible emissions were observed. In the following sections for the other areas of the Ashland Hopewell Facility, monthly inspection with recordkeeping and reporting is determined to be sufficient periodic*

monitoring for NSR permit conditions of this nature (opacity standards) without further discussion.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. *These conditions are taken from Condition 12 of the 12/18/2014 NSR Permit, along with records of periodic monitoring required by Part 70.*

- **Title V Permit Condition 14a** (Condition 12b of the 12/18/2014 NSR Permit) requires records of VOC emissions for each consecutive 12-month period. *This is the periodic monitoring requirement for **Title V Permit Condition 7.** Calculation and recordkeeping of the VOC on a monthly basis, summed for consecutive 12-month periods, along with supporting data used in the calculations is determined to be sufficient to provide a reasonable assurance of compliance with the annual VOC limitation of **Title V Permit Condition 7.***

- **Title V Permit Conditions 14b** (Condition 12a of the 12/18/2014 NSR Permit) requires records of CMC production for each consecutive 12-month period.

- **Title V Permit Conditions 14c & i** (Conditions 12c & d of the 12/18/2014 NSR Permit) lists the records required for the VOC material balance in **Title V Permit Condition 5.**

- **Title V Permit Condition 14d** requires daily records to demonstrate compliance with the 99% VOC control efficiency based on scrubber parameters established in testing required by MACT Subpart UUUU **(Title V Permit Condition 10)**.

- **Title V Permit Conditions 14e & 14g** require records for monthly inspections of control equipment and visible emission surveys.

- **Title V Permit Condition 14h** requires records of maximum hourly particulate emissions from the baghouses, calculated at the end of each month for that month as well as supporting information used in the calculations. **Title V Permit Condition 14f** requires records of annual particulate emissions from the CMC baghouses. *These conditions serve as periodic monitoring for the hourly and annual particulate matter emission limitations of **Title V Permit Condition 8.** Calculation and recordkeeping of monthly particulate emissions summed for consecutive 12-month periods and maximum hourly particulate emissions for each month along with recordkeeping of supporting data should provide a reasonable assurance of compliance with the respective particulate matter emission limitations. This is particularly true when the small magnitude of the emission limitations (control by baghouses in good operating condition) are already reasonably assured by periodic monitoring of visible emissions. Consequently, in the following sections for the other areas of the Ashland Hopewell Plant (Natrosol, Klucel, EC), monthly calculation and recordkeeping of particulate matter emissions and recordkeeping of supporting data is determined to be sufficient*

periodic monitoring for the NSR permit limitations of this nature (particulate matter emission limitations) without further discussion.

- **Title V Permit Condition 14j** requires recordkeeping for scheduled and unscheduled maintenance, and operator training.

Testing

The permit does not require source tests for continuing compliance demonstration. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard. The source has performed testing to establish parameters that will be monitored for compliance with MACT Subpart UUUU.

Reporting

- **Title V Permit Condition 15** requires that the permittee report the results of any 40 CFR Part 60 Method 9 opacity test performed as a result of the monthly visible emission checks required by **Title V Permit Condition 13**. If the test indicates that the facility is out of compliance with the 5% opacity limit, the permittee must also report the length of time associated with the exceedance and any corrective actions taken to correct the exceedance within 7 days of the applicable test. *This requirement was added to assure continuous compliance with the standard.*

- Condition 14 of the 12/18/2014 NSR Permit **(Title V Permit Condition 16)** requires that the facility provide notification to DEQ of its intention to shut down or bypass any air pollution control equipment for necessary scheduled maintenance. *This requirement is taken from 9VAC5-20-180B.*

Streamlined or Obsolete Conditions

Condition 1 of the 12/18/2014 NSR Permit is the equipment list for the CMC process area. This is included Title V equipment list.

Condition 4 of the 12/18/2014 NSR Permit included equipment that has been removed (the Acetic Acid Storage Tank controlled by the Acetic Acid Scrubber, and the 6 MCA Storage Tanks with emissions controlled by the MCA Sewer Scrubber). This equipment has been removed from the table in Title V Condition 3 since it has been removed. Additionally the exception for the MCA Sewer scrubber has been removed, since it is no longer on this list.

Condition 5 of the 12/18/2014 NSR Permit (Test/Monitoring Ports) is included in Condition 79 of the Title V Permit, in Section X (Facility Wide Conditions)

Conditions 13, 16 and 17 of the 12/18/2014 NSR Permit contain requirements for initial notification and one-time testing that are obsolete once the facility has been constructed and is operating.

Condition 20 of the 12/18/2014 NSR Permit has to do with maintenance, operating procedures and training, and is included in Condition 78 of the Title V Permit (Facility Wide Conditions).

Conditions 15, 18, 19, and 21–24 of the 12/18/2014 NSR Permit are included in the General Conditions Section of the Title V Permit, and include Notification of Facility or Control Equipment Malfunction, Right of Entry, Violation of Ambient Air Quality Standard, Permit Suspension/Revocation, Permit Invalidation, Change of Ownership, and a requirement that the permittee keep a copy on the premises of the facility to which it applies.

EMISSION UNIT APPLICABLE REQUIREMENTS – NATROSOL PROCESS AREA

Limitations

The basis for the limitations on the Natrosol process are the applicable requirements listed in the current minor NSR permit dated April 20, 2020, which are based on state BACT requirements. . ***Title V Permit Conditions 22 and 33*** *also reference the July 12, 1996 VOC RACT agreement. The 2020 permit amendment was issued for the purpose of installing a continuous dryer and centrifuge, where these processes had previously been batch operations. A silica bulk bag system was also added. Pollutants limited by the current Natrosol permit are PM, PM-10, PM-2.5, and VOC.*

- Condition 1 of the 4/20/2020 NSR permit **(Title V Permit Condition 17)** requires that particulate matter and PM_{10} emissions from the Natrosol process be controlled by fabric filter. *This is a BACT requirement.*

- Condition 2 of the 4/20/2020 NSR permit **(Title V Permit Condition 18)** requires that fugitive emissions from the Cellulose Weigh Bins (NA-AEU-011 and NA-AEU-012) and the Dryer Storage Bins (NA-AEU-062 through 065) shall be controlled by bag filters. *This is a BACT requirement.*

- Condition 3 of the 4/20/2020 NSR permit **(Title V Permit Condition 19)** requires that VOC from point sources other than the Continuous Batch Dryer and the Continuous Dryer Centrifuge in the Natrosol process area be controlled by the Natrosol vent scrubber (NA-ACD-101). *This is a BACT requirement.*

- Condition 4 of the 4/20/2020 NSR permit **(Title V Permit Condition 20)** requires that VOC from the Continuous Batch Dryer (NA-AEU-104) and the Continuous Dryer Centrifuge (NA-AEU-105) in the Natrosol process area be controlled by the Natrosol vent scrubber (NA-ACD-102). *This is a BACT requirement.*

- Condition 9 of the 4/20/2020 NSR permit (**Title V Permit Condition 21**) limits Natrosol production to 22,000 tons/yr. *This helps to ensure that the emissions limitation is met.*

- Condition 10 of the 4/20/2020 NSR permit **(Title V Permit Condition 22)** sets an emission standard of 98% VOC control efficiency on a mass basis, calculated monthly as a six-month rolling average. *The 1996 RACT agreement requires 98% VOC control efficiency on a mass basis, calculated monthly as a 6-month rolling average and this is considered BACT for this process. Compliance with the standard is verified by the material balance defined in the condition.*

- Condition 11 of the 4/20/2020 NSR permit **(Title V Permit Condition 23)** limits VOC emissions from the operation of the Natrosol process to 66.6 tons/yr. *This is a BACT requirement.*

- Condition 12 of the 4/20/2020 NSR permit **(Title V Permit Condition 24)** sets a grain-loading standard of 0.005 gr/dscf for the baghouses controlling particulate emissions from the grinding mills and silica bulk bagging system. *This is a BACT requirement.*

- Condition 13 of the 4/20/2020 NSR permit (**Title V Permit Condition 25)** limits particulate matter and PM_{10} emissions from each baghouse. Hourly and annual emissions for each baghouse are listed for all baghouses with significant emissions. *This is a BACT requirement.*

- Condition 14 of the 4/20/2020 NSR Permit **(Title V Permit Condition 26)** sets a visible emission limit of 5% for the baghouses. *This is a BACT requirement.*

- **Title V Permit Condition 27** establishes scrubber operating parameters to demonstrate continuing compliance with the 99% overall VOC HAP control efficiency required by 40 CFR 63, Subpart UUUU. *This is a requirement based on testing for scrubber parameters used to demonstrate compliance with MACT Subpart UUUU. As of December 29, 2020 there is no exception for SSM. Updated language has been added to this condition to require the permittee to maintain documentation for periods of startup and shutdown to confirm that the scrubber is operating properly prior to emission unit startup and continues to operate properly until emission unit shutdown is complete.*

Monitoring

Since the Natrosol Area has uncontrolled VOC/HAP emissions that are above major source threshold levels, are subject to specific emission standards, and need control equipment to meet these emissions standards, the Natrosol emission units are subject to CAM. However, 40 CFR 64.2(b)(1)(i) states that MACT (40 CFR 63) standards promulgated after November 15, 1990 by default can be considered to include monitoring, recordkeeping, and reporting provisions sufficient to qualify as periodic monitoring without additional requirements. Thus no additional periodic monitoring discussion is included for 40 CFR 63 Subparts A and UUUU (CMC,

Natrosol, Klucel, EC) and 40 CFR Subparts G and H (Storage Tanks and LDAR). No CAM evaluation for particulate matter is required since the control equipment (fabric filters) are considered to be inherent to the process in this area.

For all actual monitoring (i.e., opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to DEQ reports of any opacity observations which reveal visible emissions in excess of the applicable standard.

- Condition 5 of the 4/20/2020 NSR permit **(Title V Permit Condition 28)** requires each baghouse controlling PM emissions from equipment listed in Condition 1 to be equipped with a device to both sense and alarm, or to monitor and read out, high differential pressure drop across the baghouse. *This will enable the permittee to monitor differential pressure and ensure that the baghouses are operating properly.*

- Condition 6 of the 4/20/2020 NSR permit **(Title V Permit Condition 29)** requires the Natrosol solvent vent scrubber (NA-ACD-101) be equipped with devices to continuously measure the scrubber liquid flow rate and differential pressure across the scrubber. *This will enable the permittee to monitor these parameters to determine compliance with MACT Subpart UUUU operating limitations **(Title V Permit Condition 27)**.*

- Condition 7 of the 4/20/2020 NSR permit **(Title V Permit Condition 30)** requires the Natrosol continuous dryer and centrifuge scrubber (NA-ACD-102) be equipped with devices to continuously measure the scrubber liquid flow rate and differential pressure across the scrubber. *This will enable the permittee to monitor these parameters to demonstrate that the scrubber is operating properly.*

- **Title V Permit Condition 31**: A monthly inspection shall be conducted on each fabric filter (and associated differential pressure device) and the weigh bins bag filter (and associated pressure device) required by Conditions 17 and 18 to ensure the proper operation of each control system. *The requirements contained in Conditions 17 and 18 had no specific monitoring requirements in the NSR permit itself. Thus, this monitoring requirement was developed under the authority of 9 VAC 5-80-110 E to provide a reasonable assurance of compliance. Monthly inspections (and records of these inspections required by **Title V Permit Condition 29e)** of the baghouses, scrubber, and associated monitoring devices should be sufficient for this purpose.*

- **Title V Permit Condition 32**: Each baghouse subject to **Title V Permit Condition 26** (opacity limit) shall be observed at least once each operating month for at least a brief time period to determine which emission units have any visible emissions. *This requirement fulfills the Part 70 periodic monitoring requirements.*

- **Title V Permit Condition 33**: The Natrosol Process Area VOC still output shall be continuously measured and totalized once per shift. *This requirement is taken from*

Condition E.10 of the 7/12/96 RACT Agreement. In general, the RACT Agreement specified the procedures (monitoring and recordkeeping) required for Ashland to demonstrate compliance with the RACT emission standards for each process area. For the Natrosol process area, these consist of ***Title V Permit Conditions 22 and 33.*** *Taken together, these two monitoring requirements provide a reasonable assurance of compliance with the BACT/RACT standard cited in* ***Title V Permit Condition 22.***

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These include the recordkeeping requirements in Condition 19 of the 4/20/2020 NSR Permit and those required by Part 70 periodic monitoring requirements included in the Title V Permit.

- **Title V Permit Conditions 34a, b and f** list the records required for the VOC material balance, as well as Natrosol production and VOC and particulate emissions on a 12-month rolling average.

- **Title V Permit Condition 34c** requires the records of monitoring for the baghouses and scrubbers as required by **Title V Permit Conditions 29 & 30.**

- **Title V Permit Condition 34d** (Title V permit) requires daily records to demonstrate compliance with the operating limits and 99% HAP control efficiency based on scrubber parameters established in testing required by MACT Subpart UUUU.

- **Title V Permit Conditions 34e & g** require records for monthly inspections of control equipment and visible emission surveys (required by **Title V Permit Conditions 31 & 32**). *These are periodic monitoring requirements.*

- **Title V Permit Condition 34h** requires records of maximum hourly particulate emissions from the baghouses, calculated at the end of each month for that month as well as supporting information used in the calculations. *This is a periodic monitoring requirement for the hourly particulate emission limitations in* ***Title V Permit Condition 25.***

- **Title V Permit Conditions 34i & j** require records for all stack tests, visible emissions evaluations, scheduled and unscheduled maintenance, and operator training.

Testing

The permit does not require source tests to demonstrate continuing compliance. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard. The source has performed testing to establish parameters that will be monitored for compliance with MACT Subpart UUUU. Initial

performance tests are required for the new baghouse controlling the silica bagging operation permitted on 4/20/2020.

Conditions 15 & 16 of the 4/20/2020 NSR Permit (**Title V Permit Conditions 35 and 36)** include the initial method 5 performance test and VEE requirements for the new baghouse controlling the silica bagging operation. *The project is still under construction, and the initial testing requirements have not been completed. Since they are still applicable requirements, they have been included in the Title V permit.*

Reporting

- **Title V Permit Condition 37** requires that the permittee report the results of any 40 CFR Part 60 Method 9 opacity test performed as a result of the monthly visible emission checks required by **Title V Permit Condition 32**. If the test indicates that the facility is out of compliance with the 5% opacity limit, the permittee must also report the length of time associated with the exceedance and any corrective actions taken to correct the exceedance within 7 days of the applicable test. *This requirement was added to assure continuous compliance with the standard.*

- Condition 18 of the 4/20/2020 NSR Permit **(Title V Permit Condition 38)** requires the permittee to furnish quarterly status reports for the modified Natrosol process. *This requirement is based on 9 VAC 5-50-50.*

- **Title V Permit Condition 39** requires that the facility provide notification to DEQ of its intention to shut down or bypass any air pollution control equipment for necessary scheduled maintenance. *This requirement was added to the Title V permit at the request of the permittee.*

Streamlined or Obsolete Conditions

Condition 8 of the 4/20/2020 NSR Permit (Test/Monitoring Ports) is included in Facility Wide Conditions, ***Title V Permit Condition 115.***

Condition 23 of the 4/20/2020 NSR Permit has to do with maintenance, operating procedures and training, and is included in Facility Wide Conditions, ***Title V Permit Condition 114****.*

Conditions 20-22, and 24-28 of the 4/20/2020 NSR Permit are included in the General Conditions Section of the Title V Permit, and include Right of Entry, Violation of Ambient Air Quality Standard, Permit Suspension/Revocation, Permit Invalidation, Record of Malfunction, Notification of Facility or Control Equipment Malfunction, Change of Ownership, and a requirement that the permittee keep a copy of the Title V Permit on the premises of the facility to which it applies.

EMISSION UNIT APPLICABLE REQUIREMENTS – KLUCEL PROCESS AREA

Limitations

The basis for the limitations on the Klucel process are the operational restrictions listed in the current minor NSR permit dated March 20, 2019, which are based on state BACT requirements. Pollutants limited by the current Klucel permit are PM, PM-10, and VOC. ***Title V Permit Conditions 45 and 49*** *also reference the July 12, 1996 VOC RACT agreement.*

- Condition 1 of the 3/20/2019 NSR permit **(Title V Permit Condition 40)** requires that particulate matter and PM_{10} emissions from the Klucel process be controlled by fabric filter. *This is a BACT requirement.*

- Condition 2 of the 3/20/2019 NSR permit **(Title V Permit Condition 41)** requires that particulate matter from the pack fill hopper of the automated packing system shall be controlled by a hopper vent filter. *This is a BACT requirement.*

- Condition 3 of the 3/20/2019 NSR permit **(Title V Permit Condition 42)** requires that VOC emissions from the purification centrifuges be controlled by mechanical seals. *This is a BACT requirement.*

- Condition 4 of the 3/20/2019 NSR permit **(Title V Permit Condition 43)** requires that VOC from point sources in the Klucel process area be controlled by packed bed scrubbers. *This is a BACT requirement.*

- Condition 6 of the 3/20/2019 NSR permit **(Title V Permit Condition 44)** limits Klucel production to 4,800 tons/yr. *This limitation helps to ensure that the emission limitation in* ***Title V Permit Condition 46*** *is met.*

- Condition 7 of the 3/20/2019 NSR permit **(Title V Permit Condition 45)** sets a BACT emission standard of 96% VOC control efficiency on a mass basis, calculated monthly as a six-month rolling average. *The 1996 RACT agreement (Condition E.3) requires 96% VOC control efficiency on a mass basis, calculated monthly as a 6-month rolling average and this is considered BACT for this process. Compliance with the standard is verified by the material balance defined in the condition.*

- Condition 8 of the 3/20/2019 NSR permit **(Title V Permit Condition 46)** limits VOC emissions from the operation of the Klucel process to 181.0 tons/yr. *This is a BACT requirement.*

- Condition 9 of the 3/20/2019 NSR Permit **(Title V Permit Condition 47)** sets a visible emission limit of 5% for the baghouses. *This is a BACT requirement.*

- **Title V Permit Condition 48** establishes scrubber operating parameters to demonstrate continuing compliance with the 99% overall VOC control efficiency required by 40 CFR 63, Subpart UUUU. *This is a requirement based on testing for scrubber parameters used to demonstrate compliance with MACT Subpart UUUU. As of December 29, 2020, there is no exception for SSM. Updated language has been added to this condition to require the permittee to maintain documentation for periods of startup and shutdown to confirm that the scrubber is operating properly prior to emission unit startup and continues to operate properly until emission unit shutdown is complete.*

Monitoring

Since the Klucel Area has uncontrolled VOC/HAP emissions that are above major source threshold levels, are subject to specific emission standards, and need control equipment to meet these emissions standards, the Klucel emission units are potentially subject to CAM. However, 40 CFR 64.2(b)(1)(i) states that MACT (40 CFR 63) standards promulgated after November 15, 1990 by default can be considered to include monitoring, recordkeeping, and reporting provisions sufficient to qualify as periodic monitoring without additional requirements. Thus no additional periodic monitoring discussion is included for 40 CFR 63 Subparts A and UUUU (CMC, Natrosol, Klucel, EC) and 40 CFR Subparts G and H (Storage Tanks and LDAR). No CAM evaluation for particulate matter is required since the control equipment (fabric filters) are considered to be inherent to the process in this area.

For all actual monitoring (i.e., opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to DEQ reports of any opacity observations which reveal visible emissions in excess of the applicable standard.

- **Title V Permit Condition 49:** VOC flow shall be measured and the totalized flow recorded for each batch**.** *This requirement is taken from Condition E.9 of the 7/12/96 RACT Agreement. In general, the RACT Agreement specified the procedures (monitoring and recordkeeping) required for Hercules (Ashland) to demonstrate compliance with the RACT emission standards for each process area. For the Klucel process area, these consist of **Title V Permit Conditions 45 and 49**. Taken together, these two monitoring requirements provide a reasonable assurance of compliance with the BACT/RACT standard cited in **Title V Permit Condition 45.***

- **Title V Permit Condition 50**: A monthly inspection shall be conducted on the mechanical seals on the centrifuges and on each fabric filter (and associated differential pressure device). *The requirements contained in **Title V Permit Conditions 40-43** had no specific monitoring requirements in the NSR permit itself. Thus, this monitoring requirement was developed under the authority of 9 VAC 5-80-110 E to provide a reasonable assurance of compliance. Monthly inspections (and records of these inspections required by **Title V Permit Condition***

52d*) of the mechanical seals, hopper vent filter, fabric filters and associated monitoring devices should be sufficient for this purpose.*

- **Title V Permit Condition 51**: Each fabric filter subject to **Title V Permit Condition 47** (opacity limit) shall be observed at least once each operating month for at least a brief time period to determine which emission units have any visible emissions. *This requirement fulfills the Part 70 periodic monitoring requirements.*

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These include the recordkeeping requirements in Condition 10 of the 3/20/2019 NSR Permit and those required by Part 70 periodic monitoring requirements included in the Title V Permit.

The permit includes requirements for maintaining records of all monitoring and testing required by the permit.

- **Title V Permit Conditions 52a & b** list the records required for the VOC material balance, as well as Klucel production and VOC emissions.

- **Title V Permit Condition 52c** requires daily records to demonstrate compliance with the 99% VOC control efficiency based on scrubber parameters established in testing required by MACT Subpart UUUU.

- **Title V Permit Conditions 52d & e** require records for monthly inspections of control equipment and visible emission surveys. *These are periodic monitoring requirements.*

- **Title V Permit Condition 52f** requires records for all scheduled and unscheduled maintenance, and operator training.

Testing

The permit does not require source tests to demonstrate continuing compliance. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard. The source has performed testing to establish parameters that will be monitored for compliance with MACT Subpart UUUU.

Reporting

- Condition 11c of the 3/20/2019 NSR Permit (**Title V Permit Condition 54)** requires the permittee to submit the compliance report required by **Title V Permit Condition 45** by March 1 each calendar year for the period ending December 31 of the previous calendar year.

This requirement was added to the NSR permit at the request of compliance staff, since there previously had been no formal requirement that the report be submitted by a certain date.

- **Title V Permit Condition 53** requires that the permittee report the results of any 40 CFR Part 60 Method 9 opacity test performed as a result of the monthly visible emission checks required by **Title V Permit Condition 51**. If the test indicates that the facility is out of compliance with the 5% opacity limit, the permittee must also report the length of time associated with the exceedance and any corrective actions taken to correct the exceedance within 7 days of the applicable test. *This condition was added to assure continuous compliance with the standard.*

- **Title V Permit Condition 55** requires that the facility provide notification to DEQ of its intention to shut down or bypass any air pollution control equipment for necessary scheduled maintenance. *This requirement was added to the Title V permit at the request of the permittee.*

Streamlined or Obsolete Conditions

A periodic monitoring requirement for maximum hourly particulate and VOC emissions from the Klucel process (included in the September 28, 2016 Title V permit) has been removed, since the Klucel process no longer includes hourly or annual particulate matter emission limits, nor an hourly VOC emission limit. The particulate matter limits were removed in the February 1, 2005 amendment of the underlying permit, and the hourly VOC limit was removed in the March 14, 2007 amendment. The periodic monitoring requirement for the hourly limits should have therefore been removed from the previous Title V renewal. The only emission limit included in the permit for the Klucel Process Area is the annual VOC emission limit.

*Condition 5 of the 3/20/2019 NSR Permit (Test/Monitoring Ports) is included in Facility Wide Conditions**, Title V Permit Condition 115.***

Conditions 11a & b of the 3/20/2019 NSR Permit was not included in the Title V permit, since the construction has been completed.

*Condition 15 of the 3/20/2019 NSR Permit has to do with maintenance, operating procedures and training, and is included in Facility Wide Conditions, **Title V Permit Condition 114.***

Conditions 12-14 and 16-20 of the 3/20/2019 NSR Permit are included in the General Conditions Section of the Title V Permit, and include Permit Invalidation, Permit Suspension/Revocation, Right of Entry, Record of Malfunctions, Notification for Facility or Control Equipment Malfunction, Violation of Ambient Air Quality Standard, Change of Ownership, and a requirement that the permittee keep a copy of the Title V Permit on the premises of the facility to which it applies.

EMISSION UNIT APPLICABLE REQUIREMENTS – ETHYL CELLULOSE (EC) PROCESS AREA

Limitations

The basis for the limitations on the Ethyl Cellulose (EC) process are the operational restrictions listed in the current minor NSR permit dated February 24, 2006, which are based on state BACT requirements. Pollutants limited by the current EC permit are PM, PM-10 and VOC. ***Title V Permit Condition 59*** *also references the July 12, 1996 VOC RACT agreement.*

- Condition 3 of the 2/24/06 NSR permit **(Title V Permit Condition 56)** requires that particulate emissions from the EC process be controlled by fabric filter, and that each fabric filter be equipped with a device to measure differential pressure drop across the fabric filter. *This is a BACT requirement.*

- Condition 4 of the 2/24/06 NSR permit **(Title V Permit Condition 57**) requires that VOC from point sources in the EC process area be controlled by the EC vent scrubber. A flow meter and device to measure differential pressure through the scrubber is required. *This is a BACT requirement.*

- Condition 5 of the 2/24/06 NSR permit **(Title V Permit Condition 58)** requires that the permittee maintain and implement a Volatile Organic Compounds control plan for the EC process area. *This limitation ensures that the BACT standard is met.*

- Condition 7 of the 2/24/06 NSR permit **(Title V Permit Condition 60)** limits EC production to 3,500 tons/yr. *This limitation helps to ensure that the emission limits in* ***Title V Permit Condition 61*** *are met).*

- Condition 8 of the 2/24/06 NSR permit **(Title V Permit Condition 59)** sets an emission standard of 90% VOC control efficiency on a mass basis, calculated monthly as a six-month rolling average. *The 1996 RACT agreement requires 90% VOC control efficiency on a mass basis, calculated monthly as a 6-month rolling average and this is considered BACT for this process. Compliance with the standard is verified by the material balance defined in the condition.*

- Condition 9 of the 2/24/06 NSR permit **(Title V Permit Condition 61)** limits VOC emissions from the operation of the EC process to 135.6 lbs/batch and 126.0 tons/yr. *This is a BACT requirement.*

- Condition 10 of the 2/24/06 NSR permit (**Title V Permit Condition 62)** lists each baghouse for the EC process area and limits particulate matter and PM_{10} emissions from the EC Cellulose Open Top Cyclone baghouse (EC-ACD-001). The other baghouses in the EC process area are listed, but have insignificant mass emission rates. *This is a BACT requirement.*

- **Title V Permit Condition 63** limits visible emissions from all emission units and control devices in the EC Process Area to 20% opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity. *This requirement is taken from 9VAC5-50-80 of the Virginia Code, which limits visible emissions for new and modified stationary sources.*

- **Title V Permit Condition 64** establishes scrubber operating parameters to demonstrate continuing compliance with the 99% overall VOC control efficiency required by 40 CFR 63, Subpart UUUU. *This is a requirement based on testing for scrubber parameters used to demonstrate compliance with MACT Subpart UUUU. As of December 29, 2020, there is no exception for SSM. Updated language has been added to this condition to require the permittee to maintain documentation for periods of startup and shutdown to confirm that the scrubber is operating properly prior to emission unit startup and continues to operate properly until emission unit shutdown is complete.*

Monitoring

Since the EC Area has uncontrolled VOC/HAP emissions that are above major source threshold levels, are subject to specific emission standards, and need control equipment to meet these emissions standards, the EC emission units are potentially subject to CAM. However, 40 CFR 64.2(b)(1)(i) states that MACT (40 CFR 63) standards promulgated after November 15, 1990 by default can be considered to include monitoring, recordkeeping, and reporting provisions sufficient to qualify as periodic monitoring without additional requirements. Thus no additional periodic monitoring discussion is included for 40 CFR 63 Subparts A and UUUU (CMC, Natrosol, Klucel, EC) and 40 CFR Subparts G and H (Storage Tanks and LDAR). No CAM evaluation for particulate matter is required since the control equipment (fabric filters) are considered to be inherent to the process in this area.

For all actual monitoring (i.e., opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring. In addition, the source shall submit to DEQ reports of any opacity observations which reveal visible emissions in excess of the applicable standard.

- **Title V Permit Condition 65:** Each control device subject to **Title V Condition 63** (opacity limit) shall be observed at least once each operating month for at least a brief time period to determine which emission units have any visible emissions. *This requirement fulfills the Part 70 periodic monitoring requirements.*

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These include the recordkeeping requirements in Condition 14 of the 2/24/06

Permit and those required by Part 70 periodic monitoring requirements included in the Title V Permit.

- **Title V Permit Conditions 66a, b, d, and h** list the records required for the VOC material balance, as well as EC production and VOC and particulate emissions on a 12-month rolling average.

- **Title V Permit Conditions 66e** requires records of the maximum hourly particulate emissions from the baghouses listed in **Title V Permit Condition 62**. *This is a periodic monitoring requirement.*

- **Title V Permit Condition 66c** requires daily records to demonstrate compliance with the 99% VOC HAP control efficiency based on scrubber parameters established in testing required by MACT Subpart UUUU.

- **Title V Permit Condition 66f** requires records of stack test results to demonstrate compliance with the batch VOC limit specified in Title V Condition 54 (NOTE: the stack test referenced in this Condition is the initial stack test performed in accordance with the 2006 permit. Ongoing compliance is ensured with parametric monitoring).

- **Title V Permit Condition 66g** requires records of results for monthly visible emission surveys and any corrective action taken as a result.

Testing

The permit does not require source tests to demonstrate continuing compliance. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard. The source has performed testing to establish parameters that will be monitored for compliance with MACT Subpart UUUU.

Reporting

- **Title V Permit Condition 67** requires that the permittee report the results of any 40 CFR Part 60 Method 9 opacity test performed as a result of the monthly visible emission checks required by **Title V Permit Condition 65**. If the test indicates that the facility is out of compliance with the 5% opacity limit, the permittee must also report the length of time associated with the exceedance and any corrective actions taken to correct the exceedance within 7 days of the applicable test. *This condition was added to the permit to assure continuous compliance with the standard.*

- Condition 12 of the 2/24/06 Permit **(Title V Permit Condition 68)** requires that the facility provide notification to DEQ of its intention to shut down or bypass any air pollution control equipment for necessary scheduled maintenance. *This requirement is taken from 5-20-180B.*

Streamlined or Obsolete Conditions

Conditions 1 and 22 of the 2/24/06 Permit refer to the permit application for the NSR Permit and the requirement for Annual Registration/Update. These requirements are already included in General Conditions 117 & 119 of this permit.

Condition 2 of the 2/24/06 Permit is the equipment list for the EC process area. This is included Title V equipment list.

Condition 6 of the 2/24/06 Permit (Test/Monitoring Ports) is included in Facility Wide Conditions, ***Title V Permit Condition 115.***

Condition 11 of the 2/24/06 Permit contains requirements for initial notification and quarterly status reports for construction which has been completed.

Condition 18 of the 2/24/06 Permit has to do with maintenance, operating procedures and training, and is included in Facility Wide Conditions, ***Title V Permit Condition 114.***

Conditions 13, 15-17, and 19-23 of the 2/24/06 Permit are included in the General Conditions Section of the Title V Permit, and include Notification for Control Equipment Maintenance, Right of Entry, Violation of Ambient Air Quality Standard, Permit Suspension/Revocation, Permit Invalidation, Change of Ownership, and a requirement that the permittee keep a copy on the premises of the facility to which it applies.

MACT SUBPART UUUU – NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR CELLULOSE PRODUCTS MANUFACTURING

MACT Subpart UUUU is applicable to all four process areas at the Hopewell facility: CMC, Natrosol, Klucel, and EC. The MACT establishes emission limits, operating limits, and work practice standards for hazardous air pollutants emitted from cellulose products manufacturing operations at major sources of hazardous air pollutants ("HAPs") emissions. The four process areas at the plant are ***cellulose ether operations****, as defined by* ***40 CFR 63.5610.***

Existing affected sources such as cellulose ether operations were required to comply with MACT Subpart UUUU by June 13, 2005. MACT Subpart UUUU was amended on July 2, 2020. Changes to MACT Subpart UUUU since the previous Title V renewal was issued for Ashland Specialty Ingredients on September 28, 2016 include:

- *The removal of the startup, shutdown, malfunction (SSM) exception for emission limits* ***(40 CFR 63.5515(a))****, as of December 29, 2020*

- *The startup, shutdown, and malfunction (SSM) plan required by **40 CFR 63.6(e)(3)** is no longer required since the SSM exception has been eliminated. For each source, a SSM plan is not required after December 29, 2020 **(40 CFR 63.5515(b))**.*

- *The provision stating that deviations occurring during SSM are not violations if a facility meets the general duty requirements **(40 CFR 63.5555(d))** no longer applies after December 29, 2020.*

- *New reporting provisions require affected sources to electronically submit compliance notifications, semiannual reports, and performance test reports using CEDRI. Reporting must follow the procedures in **40 CFR 63.5580(g).***

- *Reports that have been submitted using CEDRI may be maintained in electronic format **(40 CFR 63.5590(e))**.*

Limitations

*The limitations are taken from **40 CFR 63.5505** and Tables 1 & 2 to Subpart UUUU of Part 63. The following Condition numbers are from the Title V permit: Table 10 to Subpart UUUU of Part 63, that shows which General Provisions apply to the affected source, is referenced in **40 CFR 63.5515.***

Condition 69 requires 99% control of organic HAP, along with work practice standards. The facility must also meet the LDAR requirements of either 40 CFR 63.162 through 63.179 (MACT Subpart H) or 40 CFR 63.1021 through 63.1037 (MACT Subpart UU). The facility must comply with 40 CFR 63.149 (MACT Subpart G) for sources of wastewater emissions, and with MACT Subpart F (40 CFR 63.149) for liquid streams in open systems. These are taken from Table 1 to Subpart UUUU, Items 3, 4, 7, 8 & 9 (cellulose ether operations). The facility does not have a carbon disulfide unloading and storage operation, or a toluene storage operation that is subject to the MACT.

Condition 70 establishes work practice standards, including LDAR, work practice for bypass lines in closed vent systems, and monitoring of heat exchange systems according to MACT Subpart F. These are taken from Table 1 to Subpart UUUU, Items 10-12.

Condition 74 incorporates MACT Subpart UUUU by reference. The condition also refers to Table 10 for Subpart A (General Provisions), and states that the General Provisions of MACT Subpart UUUU supersede those of MACT Subparts F, G, and H, which are referenced in Subpart UUUU.

Monitoring

40 CFR 63.5555(d), which stated that deviations that occur during a period of startup, shutdown, and malfunction are not violations if the permittee demonstrates that the affected

source was operating in accordance with 40 CFR 63.5515(b) no longer applies, as of December 30, 2020. The following Condition numbers are from the Title V permit, and include both monitoring and "continuous compliance" requirements:

Condition 71 requires the permittee to maintain daily average scrubber pressure drop and scrubber liquid flow rates established in the MACT Subpart UUUU compliance demonstration. These parameters are specified in separate conditions for each of the four process areas (CMC, Natrosol, Klucel, and EC).

Condition 72 requires the facility to be in continuous compliance with MACT Subpart UUUU **(40 CFR 63.5515(a)).**

Condition 73 lists factors that are used to determine whether the permittee is in compliance with the requirements of MACT Subpart UUUU, and requires the permittee to always operate and maintain the source, including control equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to levels required by MACT Subpart UUUU **(40 CFR 63.5515(b))**.

Condition 75 sets forth initial compliance demonstration **(40 CFR 63.5530(a))**. The permittee has already completed these requirements for the four process area scrubbers, but this condition has been retained in the permit in case there are changes that would require an initial compliance demonstration.

Condition 77 requires a site-specific monitoring plan for each CMS, and requires the permittee to operate and maintain the CMS according to the plan **(40 CFR 63.5545(a-d, f).**

Condition 78 requires the permittee to demonstrate continuous compliance with MACT Subpart UUUU according to the methods in Tables 5 and 6 to Subpart UUUU **(40 CFR 63.5555(a))**. The requirements in Table 5 include Item 3 for cellulose ether process vents and Items 4 and 7-12 for closed vent systems, equipment leaks, sources of wastewater emissions, liquid streams in open systems, and heat exchanger systems. Table 6 to Subpart UUUU, Item 3 includes requirements for water scrubber control.

Condition 80 requires the permittee to monitor continuously at all times that the affected source is operating, including periods of startup, shutdown, and malfunction **(40 CFR 63.5560(a-b)).**

Recordkeeping
The July 2, 2020 amendment to MACT Subpart UUUU allows the permittee to keep records in electronic form after reports have been submitted to EPA. Table 9, Item 2 has been revised, since the SSM exception was eliminated for MACT Subpart UUUU.

Title V Permit Condition 84 requires the permittee to keep the records in Table 9 to Subpart UUUU that are applicable to the affected source **(40 CFR 63.5590).** Table 9, Item 2 has been revised so that after December 29 2020, instead of records related to startup, shutdown, and

malfunction in accordance with §63.6(e)(3)(iii) through (vi), the facility must keep records related to startup, shutdown, failures to meet the standard, and actions taken to minimize emissions.

Testing

*The Five-Year Periodic emissions testing that was included in the July 2, 2020 amendment to MACT Subpart UUUU **(40 CFR 63.5541)** applies only to non-recovery control devices (e.g., flares). Since the cellulose ether processes at the facility are controlled by scrubbers, the periodic performance tests are not required.*

Title V Permit Condition 76 requires the facility to conduct performance testing in accordance with **40 CFR 63.5535.** This section has been revised to specify that performance testing must be conducted under representative conditions, which do not include startup, shutdown, or malfunction. The permittee is required to record all process information necessary to establish that the performance was conducted under representative conditions.

Reporting

*The facility is no longer required to submit SSM reports. **40 CFR 63.5580** has been substantially revised to include requirements for electronic reporting. **40 CFR 63.5580(b)(6)** was added in the July 2, 2020 amendment to Subpart UUUU, as well as **40 CFR 63.5580(e)(14)** and **(g) through (k)**. **40 CFR 63.5580(e)(14)** requires the permittee to provide an estimate of the quantity of each regulated pollutant over the emission limit, and a description of the method used to estimate the emissions. **40 CFR 63.5580(g) through (k)** add electronic reporting requirements. The following Condition numbers are from the Title V permit*

Condition 79 requires the permittee to report each instance in which the affected source was not in continuous compliance with MACT Subpart UUUU **(40 CFR 63.5555(b)).** Requirements for deviation reporting **(40 CFR 63.5580(f))** are included in **Condition 83**.

Condition 81 requires the permittee to submit each notification in Table 7 to Subpart UUUU that applies to the affected source **(40 CFR 63.5575)**.

Condition 82 requires the permittee to submit each report in Table 8 to Subpart UUUU that applies to the affected source **(40 CFR 63.5580)**. As of December 29, 2020, all reports must be submitted following the procedure in **40 CFR 63.5580(g)**.

EMISSION UNIT APPLICABLE REQUIREMENTS – TECHNICAL FACILITY

Limitations

The Technical Facility is a cellulose ethers research and development facility where pilot-scale trials and production runs are conducted. The basis for the limitations on the Technical Facility are the operational restrictions listed in the July 12, 1996 RACT agreement. The only Pollutant with federally-enforceable limits is VOC. The other limits (on methyl chloride and toluene) contained in the December 7, 2009 NSR permit are State Only Enforceable, since they pertain to state air toxics rule, and have therefore not been included in the Title V permit. State Only Enforceable conditions are included in the Title V permit only at the request of the permittee (9VAC5-80-300).

- Condition E.8 of the 7/12/96 RACT (**Title V Permit Condition 85**) requires that VOC emissions from the Technical Facility Process Area be controlled by solvent recovery and process scrubbers, and limits VOC emissions from the Technical Facility to 15 tons per year. *This is a requirement based on the 1996 non-CTG RACT.*

- **Title V Permit Condition 86** limits visible emissions to 20% opacity, except for one six-minute period in any one hour of not more than 30% opacity. *This requirement is taken from 9 VAC 5-50-80, the opacity standard for new and modified sources.*

Monitoring

CAM is not applicable to the Technical Facility emission units, because VOC emissions are limited to 15 tons/yr.

- **Title V Permit Condition 87** requires that the facility observe any emissions units in the Technical Facility Process Area monthly, and to follow up with a 40 CFR, Appendix A Method 9 visible emissions evaluation if any above normal visible emissions are observed, unless the visible emission condition is corrected as expeditiously as possible and recorded, and the cause and corrective measures taken are recorded. *This requirement fulfills the Part 70 periodic monitoring requirements.*

- **Title V Permit Condition 88** requires that each process scrubber be equipped with a scrubber liquid flow meter and a device to continuously measure the differential pressure across the scrubber. The scrubber liquid flow and differential pressure shall be recorded once per shift when the equipment is operating. *This requirement fulfills the Part 70 periodic monitoring requirements.*

Recordkeeping

The permit includes requirements for maintaining records of all monitoring required by the permit. For all actual monitoring (i.e., opacity checks, monthly/annual inspections, etc.), records shall be kept to verify the occurrence and results of the monitoring.

- **Title V Permit Condition 89** requires that the facility keep records of monthly and annual VOC emissions, as well as any emission factors, material throughputs and/or material balance calculations used. This Condition also requires that the permittee keep records of the visible emissions evaluations and scrubber liquid flow/differential pressure measurements. *This requirement fulfills the Part 70 periodic monitoring requirements.*

Streamlined or Obsolete Conditions

Condition 1 of the 12/7/09 Permit is the equipment list, which is included in the Title V equipment list.

Condition 7 of the 12/7/09 Permit requires initial notifications which have already been fulfilled.

Condition 15 of the 12/7/09 Permit has to do with maintenance, operating procedures and training, and is included in Condition 79 of the Title V Permit (Facility Wide Conditions).

EMISSION UNIT APPLICABLE REQUIREMENTS – STORAGE TANKS

The storage tanks at the facility are subject to 9 VAC 5 Chapter 40, Article 25 (Emission Standards for Volatile Organic Compound Storage and Transfer Operations.)

- **Title V Permit Condition 90** list the tanks and their applicable requirements, contained in **Title V Permit Conditions 91-94.**

- **Storage Tanks – Limitations –** The storage tanks listed in the table below are subject to the Conditions of this section as specified:

AREA	Tank ID #	Subject to Condition 91	Subject to Condition 92	Subject to Condition 94d
CMC	CM-TNK-413	x	x	
CMC	CM-TNK-414	x	x	
CMC	CM-TNK-416	x	x	
CMC	CM-TNK-408	x	x	x
CMC	CM-TNK-418	x		
CMC	CM-TNK-420	x	x	
CMC	CM-TNK-407	x	x	
CMC	CM-TNK-411	x		
CMC	CM-TNK-409	x	x	
CMC	CM-TNK-410	x		
CMC	CM-TNK-422	x	x	

AREA	Tank ID #	Subject to Condition 91	Subject to Condition 92	Subject to Condition 94d
CMC	CM-TNK-423	x	x	
CMC	T-1	x	x	
CMC	T-2	x	x	
CMC	CM-TNK-417	x		
CMC	CM-TNK-419	x		
CMC	CM-TNK-415	x		
CMC	CM-TNK-412	x		
CMC	MC-TNK-294 (T-94)	x		
CMC	MC-TNK-295 (T-95)	x		
Natrosol	NA-TNK-341	x	x	
Natrosol	NA-TNK-347	x		
Natrosol	NA-TNK-342	x	x	
Natrosol	NA-TNK-343	x	x	
Natrosol	NA-TNK-330	x	x	
Klucel	KL-TNK-306	x		
Klucel	KL-TNK-322	x		x
Klucel	KL-TNK-309	x	x	
Klucel	KL-TNK-308	x		
Klucel	KL-TNK-307	x		
Klucel	KL-TNK-337	x		
Klucel	KL-TNK-363	x		
Klucel	KL-TNK-364	x		
EC	EC-TNK-315	x		
EC	EC-TNK-322	x		
EC	EC-TNK-324	x		
EC	EC-TNK-325	x		x
EC	EC-TNK-326	x		
EC	EC-TNK-327	x		
EC	EC-TNK-321	x		
EC	EC-TNK-328	x		
EC	EC-TNK-310	x		
TechFac	TF-TNK-510	x		
TechFac	TF-TNK-520	x		
TechFac	TF-TNK-530	x		
TechFac	TF-TNK-540	x		
TechFac	TF-TNK-550	x		
TechFac	TF-TNK-560	x		
TechFac	TF-TNK-570	x		

Limitations

- **Title V Permit Condition 91** requires that the designated tanks are equipped with a control method that will remove 60% by weight of volatile organic compound emissions during filling, and that they employ either pressure sufficient to prevent vapor loss, or install an internal floating roof with a closure seal or seals (or other control method approved by the

board). *These requirements are taken from Article 25, 9 VAC 5-40-3430A and 9 VAC5-40-3440B, and apply to tanks with storage capacity between 2,000 gallons and 40,000 gallons.*

- **Title V Permit Condition 92** requires that the designated tanks are equipped with a control method that will remove 90% by weight of volatile organic compound emissions during filling, and that they employ either pressure sufficient to prevent vapor loss, or install an internal floating roof with a closure seal or seals (or other control method approved by the board). *These requirements are taken from Article 25, 9 VAC 5-40-3430B and 9 VAC5-40-3440B, and apply to tanks with storage capacity greater than 40,000 gallons.*

Monitoring/Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit.

- **Title V Permit Condition 93** requires that the facility perform monthly inspections on each control device used to control tank VOC emissions. Further, the permittee is required to keep records of the results of the monthly inspections and details of any corrective actions taken. *This requirement fulfills the Part 70 periodic monitoring requirements.*

- **Title V Permit Condition 94** requires records to assure compliance with the respective existing source rule standard and with the recordkeeping requirement of MACT Subpart G. **Title V Permit Condition 94a** pertains to the tanks subject to **Title V Permit Condition 91, Title V Permit Condition 94b** pertains to the tanks subject to **Title V Permit Condition 92,** and **Title V Permit Condition 94d** pertains to the tanks subject to MACT Subpart G (recordkeeping of tank dimensions only).

FUEL BURNING EQUIPMENT REQUIREMENTS - EMERGENCY GENERATOR AND WATER PUMPS – (emission unit ID #EG-AEU-001, WP-EAU-001, WP-EAU-002, WP-EAU-003, WP-EAU-004, WP-EAU-005)

The requirements in this section include the visible emissions standard for the engines, as well as periodic monitoring, recordkeeping, and reporting.

Limitations

- **Title V Permit Condition 95** limits visible emissions from the emergency engines to 20% opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity. *This requirement is taken from 9VAC5-50-80 of the Virginia Code, which limits visible emissions for new and modified stationary sources.*

Monitoring/Recordkeeping/Reporting

- **Title V Permit Condition 96:** Each engine subject to **Title V Permit Condition 95** (opacity limit) shall be observed at least once each quarter that the units are operated for at least a brief time period to determine which emission units have any visible emissions. A Method 9 test is required if any visible emissions are observed. The permittee shall keep a log of all observations as well as any corrective actions taken.

  Title V Permit Condition 97 requires the facility to keep records of the visible emissions observations, visible emissions evaluations, and any corrective actions taken as a a result of these observations for a period of five years.

- **Title V Permit Condition 98** requires that the permittee report the results of any 40 CFR Part 60 Method 9 opacity test performed as a result of the visible emissions observations required by **Title V Permit Condition 96**. If the test indicates that the facility is out of compliance with the 20% opacity limit, the permittee must also report the length of time associated with the exceedance and any corrective actions taken to correct the exceedance within 7 days of the applicable test. *This requirement was added to assure continuous compliance with the standard.*

MACT SUBPART ZZZZ – NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES (emission unit ID #EG-AEU-001, WP-EAU-001, WP-EAU-002, WP-EAU-003, WP-EAU-004, WP-EAU-005)

The emergency generator (2016) is used to operate the fire pumps at the facility (though it is not a fire pump engine). It is rated at 350 kW (530 hp) and is exempt from NSR permitting, however it is subject to NSPS (40 CFR 60) Subpart IIII and MACT (40 CFR 63) Subpart ZZZZ. MACT Subpart ZZZZ §63.6590(b)(1)(i) states that a new or reconstructed stationary RICE with a site rating of more than 500 bhp located at a major HAP source does not have to meet the requirements of Subparts A and ZZZZ except for the initial notice requirements of 40 CFR 63.6645(f)..

The five emergency water pumps at the facility are also rated at 300 hp and were constructed in 2004.

Title V Condition 99 incorporates MACT Subpart ZZZZ by reference, and states that Table 8 to Subpart ZZZZ of Part 63 shows which parts of MACT Subpart A apply to the emergency water pumps.

Title V Condition 100 cites **40 CFR 63.6590(b)(1)(ii)** in stating that the emergency generator engine (EG-AEU-001), as a new stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate for the purposes specified in 40

CFR 63.6640(f)(2)(ii) and **(iii)**, does not have to meet the requirements of 40 CFR 63 Subparts A and ZZZZ, except for the initial notification requirements of **40 CFR 63.6645(f).**

Title V Condition 101 requires the facility to perform specific maintenance procedures from Table 2c to Subpart ZZZZ for the emergency water pump engines **(40 CFR 63.6602)**.

Title V Condition 102 requires a Maintenance Plan for the emergency water pumps **(40 CFR 63.6625(e)(2)).**

Title V Condition 103 requires each emergency water pump to be equipped with a non-resettable hour meter **(40 CFR 63.6625(f))**.

Title V Condition 104 requires that idling time be minimized for the emergency water pump engines during startup **(40 CFR 63.6625(h))**.

Title V Condition 105 includes MACT Subpart ZZZZ recordkeeping requirements for the emergency water pumps. These consist of records of operating hours and reason for operation, records of oil and filter changes, and inspections of air cleaners, hoses, and belts, as they occur, and duration of malfunctions, maintenance, and corrective actions (**40 CFR 63.6665 and 40 CFR 63.6660)**.

NSPS SUBPART IIII – STANDARDS OF PERFOMANCE FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES

Following are applicable NSPS Subpart IIII requirements, which also satisfy the RICE MACT.

Limitations

- **Title V Condition 106** incorporates NSPS Subpart IIII by reference for the emergency generator engine).

- **Title V** Permit **Condition 107** requires the emergency generator to be certified by the manufacture to meet Tier II or Tier III standards for NMHC+NOx, CO and PM. *This is an NSPS Subpart IIII requirement taken from 40 CFR 60.4205(b).*

- **Title V Permit Condition 108** limits the maximum sulfur content for the diesel fuel burned in the emergency generator 15 ppm. *This is an NSPS Subpart IIII requirement taken from 40 CFR 60.4207(b).*

- **Title V Condition 109** requires that the engine (EG-AEU-001) be equipped with a non-resettable hour meter **(40 CFR 60.4209(a)).**

- **Title V Permit Condition 110** limits the emergency generator to emergency operation, maintenance, and testing, and operation in non-emergency situations for 50 hours per year or less **(40 CFR 60.4211(f))**.

- **Title V Permit Condition 111** requires the permittee to operate and maintain the emergency generator in accordance with the manufacturer's emission-related instructions or their own maintenance plan which provides for the maintenance and operation of the generator in a manner consistent with good air pollution control practices. Operators must be trained on proper operation and maintenance of the generator. *This is an NSPS Subpart IIII requirement taken from **40 CFR 60.4211**.*

Monitoring/Recordkeeping/Reporting

EPA has stated that MACT (40 CFR 63) and NSPS (40 CFR 60) standards promulgated after 1990 by default can be considered to include monitoring, recordkeeping, and reporting provisions sufficient to qualify as periodic monitoring without additional requirements. The engine is not subject to a CAM review, since there is no control equipment installed on the engine.

- **Title V Permit Condition 112** requires the permittee to keep a log of any non-emergency operating hours on a monthly basis. *This condition was added to demonstrate compliance with **Title V Permit Condition 110**.*

- **Title V Permit Condition 113a** is the corresponding recordkeeping requirement to **Title V Permit Condition 112** and requires that the permittee record the annual hours of operation of the emergency generator, including non-emergency operation, to demonstrate compliance with **Title V Permit Condition 110**.

- **Title V Permit Condition 113b** requires records of diesel shipments to show compliance with the fuel sulfur limit in **Title V Permit Condition 108**.

- **Title V Permit Condition 113c** requires the permittee to keep records of the engine information used to determine the applicability of NSPS Subpart IIII requirements.

  Title V Permit Condition 113d requires records of the manufacturer's written operating instructions or approved procedures developed by the owner/operator.

- **Title V Permit Conditions 113e&f** require records of any malfunctions of the emergency generator including each occurrence of a malfunction, its duration, and any corrective actions taken to minimize emissions.

FACILITY WIDE CONDITIONS

Facility-wide conditions apply generally to the facility, and were consolidated in this section to avoid repetition.

- **Title V Permit Condition 114** requires the permittee to take measures to minimize the duration and frequency of excess emissions by establishing maintenance schedules and records, maintaining an inventory of spare parts, and training operators in the proper operation and maintenance in accordance with written procedures and manufacturers' recommendations. *These requirements are included in the NSR permits for the CMC, Natrosol, Klucel, EC, and Technical Facility citing 5-50-20 E, the requirement to maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions.*

- **Title V Permit Condition 115** requires that the facility be constructed to allow for emissions testing. *This condition applies to the entire facility to enable the permittee to perform testing when necessary to demonstrate compliance with a permit or standard.*

- **Title V Permit Condition 116** establishes test methods for particulate and visible emissions. *Method 9 is specified in the permit for VEE, and particulate testing is fairly straightforward. Other testing requirements for VOC and HAPs will be determined by DEQ or EPA on a case-by-case basis, or as established by applicable standards.*

INSIGNIFICANT EMISSIONS UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9VAC5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9VAC5-80-720B)	Rated Capacity (9VAC5-80-720C)
N/A	Used-Oil Storage Tanks	9 VAC 5-80-270 C		7 @ 275 gallons ea
EC T-40	Caustic Storage Tank	9 VAC 5-80-270 A		
EC T-41	Caustic Storage Tank	9 VAC 5-80-270 A		
EC T-59	Spent Caustic Tank	9 VAC 5-80-270 A		
EC T-58	Spent Caustic Tank	9 VAC 5-80-270 A		
EC T-55	Spent Caustic Tank	9 VAC 5-80-270 A		
EC T-54	Spent Caustic Tank	9 VAC 5-80-270 A		
EC-TNK-335	Caustic Mix Tank	9 VAC 5-80-270 A		
EC-TNK-343	Caustic Storage Tank	9 VAC 5-80-270 A		
EC-TNK-306	Caustic Scale Tank	9 VAC 5-80-270 A		
EC-TNK-SC1	Caustic Collection Tank	9 VAC 5-80-270 A		
EC-TNK-324	Caustic Receiving Tank	9 VAC 5-80-270 A		
EC-TNK-351	Caustic Neutralization Tank	9 VAC 5-80-270 A		
EC-AEU-041	Liquid Carbon Dioxide Storage Tank	9 VAC 5-80-270 A		

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9VAC5-80-720B)	Rated Capacity (9VAC5-80-720C)
CM T-801	Caustic Storage Tank	9 VAC 5-80-270 A		
CM T-802	Caustic Storage Tank	9 VAC 5-80-270 A		
CM PER 1	North Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
CM PER 2	South Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
NA-TNK-300	Nitric Acid Storage Tank	9 VAC 5-80-270 A		
NA-TNK-313	Caustic Storage Tank	9 VAC 5-80-270 A		
NA-TNK-363	Caustic Storage Tank	9 VAC 5-80-270 A		
NA-AEU-098 and 099	Caustic Scale Tanks	9 VAC 5-80-270 A		
NA-TNK-339	Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
KL-TNK-362	Caustic Scale Tank	9 VAC 5-80-270 A		
KL-TNK-365	Caustic Storage Tank	9 VAC 5-80-270 A		
KL-TNK-366	Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
KL-TNK-368	Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
KL-TNK-350	Hydrogen Peroxide Storage Tank	9 VAC 5-80-270 A		
FP-AEU-001	#1 Mix Tank	9 VAC 5-80-270 B	PM/PM_{10}/VOC	
FP-AEU-002	#2 Mix Tank	9 VAC 5-80-270 B	PM/PM_{10}/VOC	
FP-AEU-003	Bag Dump Station and Conveyance System	9 VAC 5-80-270 B	PM/PM_{10}/VOC	
FP-AEU-004	Hydrogen Peroxide Tank	9 VAC 5-80-270 A		
FP-AEU-005	Hydrogen Peroxide Tank	9 VAC 5-80-270 A		
FP-AEU-006	Peroxide Head Tank	9 VAC 5-80-270 A		
FP-AEU-007	Process Storage Tank #3	9 VAC 5-80-270 B	PM/PM_{10}/VOC	
FP-AEU-008	Process Storage Tank #4	9 VAC 5-80-270 B	PM/PM_{10}/VOC	
FP-AEU-009	Process Storage Tank #6	9 VAC 5-80-270 B	PM/PM_{10}/VOC	
FP-AEU-010	Mineral Oil Storage Tank #1	9 VAC 5-80-270 B	PM/PM_{10}/VOC	
FP-AEU-011	Mineral Oil Storage Tank #2	9 VAC 5-80-270 B	PM/PM_{10}/VOC	
N/A	Diesel Fuel Storage Tanks	9 VAC 5-80-270 B	VOC/HAP	4@ 275 gallons ea 1@ 500 gallons
N/A	Gasoline Storage Tank	9 VAC 5-80-270 B	VOC/HAP	1000 gallons

[1]The citation criteria for insignificant activities are as follows:
9VAC5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9VAC5-80-720 B - Insignificant due to emission levels
9VAC5-80-720 C - Insignificant due to size or production rate

INAPPLICABLE REQUIREMENTS

The following requirements have been specifically identified as not being applicable to this facility:

Citation	Title of Citation	Description of Applicability
40 CFR 60 (NSPS), Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	The Hopewell facility does not have any storage tanks constructed, reconstructed, or modified after the applicability date that meet the size and vapor applicability thresholds of NSPS Subpart Kb.
40 CFR 60 (NSPS), Subpart VV	Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction or Modification Commenced After January 5, 1981, and on or Before November 7, 2006	The facility does not produce any of the chemicals listed in 40 CFR 60.489 as an intermediates or final products.
40 CFR 60 (NSPS), Subpart III	Standards of Performance for VOC Emissions from the SOCMI Air Oxidation Unit Processes	The facility does not produce any of the chemicals listed in 40 CFR 60.617 as a product, co-product, by-product, or intermediate.
40 CF 60 (NSPS), Subpart NNN	Standards of Performance for VOC Emissions from the SOCMI Distillation Operations	The facility does not produce any of the chemicals listed in 40 CFR 60.667 as a product, co-product, by-product, or intermediate.
40 CFR 60 (NSPS), Subpart RRR	Standards of Performance for VOC Emissions from the SOCMI Reactor Processes	The facility does not produce any of the chemicals listed in 40 CFR 60.707 as a product, co-product, by-product, or intermediate.
40 CFR 60 (NSPS), Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	The emergency water pumps (WP-EAU-001 through 005) at the facility were constructed prior to the applicability date
40 CFR 63 (MACT), Subpart VVV	National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works	Wastewater from the facility is sent to Hopewell Water Renewal for treatment.
40 CFR 63 (MACT), Subpart EEEE	National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)	The facility stores organic HAP liquids listed in Table 1 of Subpart EEEE (methanol). However, the organic liquid distribution operations, which include storage tanks and equipment leak components, are subject to Subpart UUUU. Therefore, these emissions units are not subject to MACT Subpart EEEE in accordance with the exemption in 40 CFR 63.2338(c)(1).

Citation	Title of Citation	Description of Applicability
40 CFR 63 (MACT), Subpart FFFF	National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing	The facility is subject to MACT Subpart UUUU. Therefore, it is exempt from MACT Subpart FFFF according to 40 CFR 63.2435(b)(3).
9VAC5, Chapter 40, Article 8 (Rule 4-8)	9VAC5, Chapter 40 (Existing Stationary Sources) Emission Standards for Fuel Burning Equipment (Rule- 4-8)	Rule 4-8 does not apply to the emergency engines, since they are stationary internal combustion engines.
9VAC5, Chapter 40, Article 25 (Rule 4-25)	9VAC5, Chapter 40 (Existing Stationary Sources) Emission Standards for Volatile Organic Compound Storage and Transfer Operations (Rule- 4-25)	Rule 4-25 does not apply to the storage tanks listed as Insignificant Emission Units (by size and/or vapor pressure)

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9VAC5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

Federal Enforceability

Article 1 (9VAC5-80-110 N) states that all terms and conditions in the Title V permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.

Permit Expiration

This condition refers to the Board taking action on a permit application. The “Board” refers to the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the Code of Virginia, and the “Department of Environmental Quality Agency Policy Statement No. 2-09”.

This general condition cite(s) the Article(s) that follow(s):

(For TV): Article 1 (9VAC5-80-50 et seq.), Part II of 9VAC5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:
9VAC5-80-80. Application
9VAC5-80-140. Permit Shield
9VAC5-80-150. Action on Permit Applications

Failure / Malfunction Reporting

Section 9VAC5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9VAC5-20-180 is from the general regulations. All affected facilities are subject to section 9VAC5-20-180 including Title V facilities. A facility may make a single report that meets the requirements of 9VAC5-20-180. The report must be made within four daytime business hours of discovery of the malfunction.

In order for emission units to be relieved from the requirement to make a written report in 14 days the emission units must have continuous monitors meeting the requirements of 9VAC5-50-410 or 9VAC5-40-41.

This general condition contains a citation from the Code of Federal Regulations as follows:
40 CFR 60.13 (h). Monitoring Requirements.

Permit Modification

This general condition cites the sections that follow:

9VAC5-80-50. Applicability, Federal Operating Permit for Stationary Sources
9VAC5-80-190. Changes to Permits
9VAC5-80-260. Enforcement
9VAC5-80-1100. Applicability, Permits For New and Modified Stationary Sources
9VAC5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9VAC5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follows:
40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.
40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.
40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:
9VAC5-60-70. Designated Emissions Standards
9VAC5-80-110. Permit Content

FUTURE APPLICABLE REQUIREMENTS

None identified.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

The proposed permit will be placed on public notice from February 18, 2022 to March 21, 2022. The notice will be published in the Progress-Index newspaper on February 18, 2022. The draft permit will also be sent to EPA Region III for a concurrent 45-day review period.